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Journal OF THE Gujarat Research Society

Vol. VII

January 1945

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NOTES

With this number commences the seventh volume of the Journal. The difficulties due to war conditions have affected adversely the size as well as punctuality of the Journal, but it is a matter of satisfaction on the whole that the Society has been able to continue its useful work through the publication of the Journal. We hope research workers and scholars in Gujarat will continue to give us their co-operation and support by way of contributions on subjects of their choice.

* * * *

The research activities of the Society relating to (1) Intelligence Tests of Gujarati Children ; (2) Linguistic Survey of the Borderlands of Gujarat ; (3) Anthropological Studies of the Aboriginal races of Gujarat, and (4) Physical Fitness of Gujaratis are continuing. The progress of work in connection with the volumes on the History of Gujarat is, however, slow, partly because of the difficulty of finding trained research workers, and partly on account of the other preoccupations of some of the senior members.

* * * *

The new year has brought distinction and honour to two of our office-bearers. Our President, Justice Harsiddhabhai Divatia has been awarded a Knighthood, and Professor C. N. Vakil, our Honorary General Secretary, has been appointed Economist to the Planning and Development Department, Government of India. On the 25th of January at the invitation of our Vice-President Mr. P. G. Shah a tea-party was arranged in honour of both of them. The function was well attended, among those present being Sir Purshotamdas Thakurdas, the Hon'ble Sir Shantidas Askuran, Sir Chimanlal Setalvad, Seth Ramdeo Podar, Hon'ble Sir Harilal Kania, Hon'ble Mr. Justice M. C. Chagla, and Hon'ble Mr. Justice N. H. Bhagwati. Two other members of the Society have also received similar honours. The honour of Knighthood has been conferred on Mr. B. J. Wadia, Vice-Chancellor of the Bombay University, and Mr. D. N. Wadia has been appointed Geological Adviser to the Planning and Development Department, Government of India.

* * * *

It has been decided by the Gujarat Research Society to institute a medal to be awarded for the best research work pertaining to Gujarat, published in the Journal of the Gujarat Research Society. The medal will be presented to the writer of the article or articles adjudged best by a competent committee. The medal will be available for work in any subject which may be offered in English or Gujarati. The award will as far as possible be made annually, but may be withheld in any year during which articles of sufficiently high merits have not been received.

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INTELLIGENCE TESTING

By

J. H. TRIVEDI

(This Society is conducting a scheme of Intelligence tests for Gujarati Children under the guidance of Messrs. J. H. Trivedi and M. P. Vaidya. The following article points out the importance of the problem, the methods adopted and the need for doing similar work in our country.—EDITORS)

The Nature of Intelligence : What is intelligence? It is said to be an ability when we have some aim or question in mind (a) to find out the relevant qualities and relations of the objects or ideas before us and (b) to evoke other relevant ideas. It is in fact the capacity for rational and constructive thinking directed to the attainment of some object. An intelligent man while facing a problem can immediately bring before him the relevant ideas. Whether you want to carry on an intelligent Government of a nation or whether you want to manage a big business organisation or whether you want to carry out a scientific research—all these activities require direction, rational, constructive thinking. According to Ballard the various opinions on the nature of intelligence can be grouped under three heads : (1) those that regard intelligence as a single ability common to all intellectual processes ; (2) those that regard it as a group of two or three abilities of varying degrees of generality and (3) those that regard it as representing no real entity but as merely a convenient term for the average of all specific abilities (Ballard's group test for Intelligence).

The first theory which is called the theory of the "central intellective factor" maintains Stern's definition : "General adaptability to the new problems and conditions of life". The second theory, according to which intelligence may be regarded as being made up of a certain number of abilities was held by Binet. He believed in some sort of faculties of the mind and therefore he designed tests for perception, memory, attention, etc. According to Binet the three important abilities constituting intelligence were : (1) the comprehending of a problem directing the mind to the solution and maintaining the attention to it ; (2) the ability to adapt the mind to the needs of the situation and (3) the capacity for auto-criticism. Again some hold that the important abilities are two : (1) concentrating the attention and (2) showing general cleverness. The third theory is advanced by Thorndike. He regards intelligence as representing the whole lot of innate mental abilities. He maintains that the result of a test in one direction could predict the possibilities in other directions. But according to him no one test need be taken as having measured the general ability.

According to Burt, general intelligence while it expresses itself in various ways is a single complex quality and not a sum total of a large number of independent traits. He defines it as "all round mental efficiency". It is best measured through tests which require volitional attention, quick and accurate grasp of situation, relations

correlates and reasoning. Spearman also may be said to be associated with the theory of general ability. Spearman's theory requires the fuller discussion. It is better known as the two factor-theory.

The two-factor theory of Intelligence : Spearman discovered that there is a common element in all our cognitive abilities. According to him every different intellectual activity involves a general factor which it shares with all other intellectual activities and a specific factor, which, in most instances it shares with none. Spearman himself observes : "All branches of intellectual activity have in common one fundamental function or a group of functions, whereas the remaining or specific elements seem in every case to be wholly different from that in all the others". Spearman also discovered that these abilities are correlated in a curious way. Statisticians make use of the term "correlation" to cover all different ways in which the variations in one thing may be related to variations in another. There are positive correlations, negative correlations and absence of correlation.

There is a positive correlation both between the temperature and thermometer reading and between the height and the weight of a representative sample of human beings. Though it is higher in the 1st case than in the second, a number of methods has been devised by which the degree of correlation between two variations may be determined. The usual method is one that results in expressing the degree of correlation by a coefficient which varies from one down to zero, according as the correlation varies from perfect positive dependence to perfect independence and from zero to minus one according as the correlation varies from perfect independence to perfect negative dependence. Thus the coefficient of correlation between temperature and thermometer reading is one. That between the height and weight of the representative sample of human beings is positive but less than one. That between length of eye-brows and kind-heartedness is probably insignificant and that between the amount of sand in one bulb of an hour glass and the amount of sand in the other bulb is minus one. The coefficient of correlation is symbolised by the letter 'r' and usually the coefficient of correlation between two variables 'a' and 'b' is expressed as r_{ab} . With this general knowledge of what is meant by correlation and by the coefficient of correlation, we now turn to the experimental data that have led to the two-factor theory. Spearman began by discovering that when he examined measurement of any cognitive abilities—abilities that have to do with the thinking or intellectual aspects of the mind and not with feeling or the desiring—and calculated their coefficient of correlations, these coefficients tended towards a peculiar and orderly arrangements. This arrangement is expressed in the following formula, where a b c d denote any four of the measured abilities.

$$(r_{ab} \times r_{cd}) - (r_{ad} \times r_{bc}) = 0$$

This formula is called the "tetrad equation" and the value of its left side the "Tetrad difference". In the abilities of man by Spearman where he reviews all his work, he sums up its results by showing that except where the way of sampling or the administration of the tests or the procedure of marking has been vitiated by illegitimate influence, measurements of all kinds of cognitive abilities satisfy the Tetrad equation.

The important feature of the two-factor theory is its statement that a general factor enters into all our cognitive abilities and underlies all our thinking. This general factor is important because we can identify it with intelligence. Spearman himself names it "G". He thinks that the word 'Intelligence' has become a mere vocal sound, a word with so many meanings that finally it has none, and he tries to avoid its use. Still, it seems he does explicitly identify 'g' with intelligence. Spearman uses 's' to represent the specific factor characteristic of the particular activity. This means there are as many 'ss' as there are activities. For the same individual 'g' is constant and operates in any activity that he carries on. We should note here that the two-factor theory has not been accepted everywhere. In the United States, it has been attacked by Thorndike whose investigations led him to the view that the mind is 'a host of highly particularised and independent faculties.' In Britain Spearman's critic has been Thompson, whose is the sampling theory of ability. According to him, the mind of each man is a sample group of qualities, like Mendelian units which come to him by heredity. In the execution of any mental activity, there are a number of qualities which are not at play and these qualities which the individual employs are the sample of the lot he possesses.

Intelligent Tests : The credit of first designing systematic type of mental tests and of devising a scale for measuring the intelligence of children goes to Alfred Binet, a French Psychologist. In the beginning of the present century he was faced with the problem of assisting the administrative educational authorities in examining the children in the schools of Paris with a view to sort the mentally deficient children so that they may be transferred to special schools. He observed that proper method of testing a child was through a certain number of questions of the conversational type. His next achievement was to conceive a scale of measurement. He decided to measure intelligence in terms of mental age. He prepared a number of test questions suited to each particular age. These questions were properly graded after considerable experimentation. Each correct answer counted as a fraction of a mental year. Theodore Simon, another French Psychologist, collaborated with Binet and hence the scale has been called the Binet Simon Scale. The first scale came out in 1905, the second in 1908 and the third in 1911. This consisted of a set of 54 tests. He started with children of three years and went up to the adult stage. In Binet's tests there is a variety of problems so that intelligence expressed in any direction could be measured. In order that the test might be reliable, he standardized them by administering them on a large number of children and scored out those that were unsuitable. If 90 per cent. of the children of a certain age did the test, he regarded it as being too easy. The success by 65 per cent. was considered to be adequate for the inclusion of the test. Burt's plan at present is to regard a test as standardised if 50 per cent. of children who are normally of the year below the age pass it. A test meant for 10 years old is passed by 50 per cent. of 9 years old ones and so on. Since 1911, the Binet's scale has been experimented upon and modified in the light of the experience gained. The two important revisions are : (1) The Stanford revision due to Terman and (2) London revision due to Burt. The Stanford is due to Terman who worked the tests in California. The standard scale contains 90 tests instead of 5 tests for a year in the original scale, they have made six so that each test gives a score of two months of mental age. New tests have been added by Terman and several alterations

made in the allocation of the tests to various age groups. Instead of employing mental age, Terman preferred expressing the result of intelligence measurement in terms of the intelligence quotient which is the ratio of the mental age to the chronological age. $I.Q. = M.A./Cr. A.$ The ratio is multiplied by hundred for convenience. Measurements expressed in terms of I.Q. have been widely accepted. The London revision contains 65 tests for age groups from three to sixteen but Burt gave 12 psychological tests to different age groups of children at school and found out the correlation between the performance in the tests and the opinion of the teachers as regards the intelligence of pupils. Regarding the Binet's tests, Burt felt the need of revising, modifying and re-arranging the various tests. He found that Binet's scale suited the junior grades better than the senior ones.

Group tests : Binet's tests as well as other revisions of the same are individual tests with the help of which only one child can be tested at a time. If a large number is to be tested by the individual tests, it naturally takes a great deal of time. Now if we want to employ the test on a larger scale, group tests had to be devised. These were first devised in order to solve the problem of testing AMERICAN ARMY AS A WHOLE DURING the war time in order to select individuals who could be put in charge of units. These are called the Army Alpha Tests and the Army Beta Tests. Since then, group tests have become prevalent. But these cannot displace the individual tests which are necessary for a definite judgment about an individual.

Performance Tests : The individual or group tests, all consist of questions to be answered verbally or in writing. Some linguistic ability is demanded in these tests. Now this is a draw-back when we have to test people who are not sufficiently literate or who are physically defective, e.g. deaf or dumb. Even for normal children insufficient linguistic control or nervousness due to the oral examination, etc. are handicaps. Hence we have the performance test. In performance tests the subject is asked to fit together pieces of card-boards, or to put together small blocks, cylinders, cubes, etc. in order to construct some structure. Collins and Drever have drawn up a series of non-linguistic tests for the deaf and normal children.

Intelligence Testing in India : We have seen the usefulness of mental testing and there is a need for a scientific method of classifying and grading children in schools, according to their mental powers. Some attempts have been made in our country to test children mentally and in some places Binet Simon tests have been translated or modified but all experiments need to be followed up. The field is certainly wide but difficulties are not insignificant. As a whole, India is a vast country having many languages with an entirely different social background compared with any in the West and hence the tests used in the West if applied here need revision. Even in England the Binet tests were modified. Thus, in our country we have to devise or adapt the tests keeping these factors in view.

The uses of Intelligence Tests : Intelligence tests, whether individual or group, aim at discovering the inborn mental ability of a child, and thus determine his educable capacity. Now the ordinary oral and written examinations suffer from certain defects. They are so often subjective. The examiner has his due share in the assessment. Then again they lay emphasis on knowledge rather than on power. Intelligence tests have been made as objective as possible. In administering them the personality of the examiner makes very little difference.

Intelligence tests are being increasingly used to classify pupils as 'bright', 'medium' and 'dull' and they are given an enriched course, a regular course and a simplified course respectively. Again these tests are widely used in the diagnosis of mental deficiency. They are sometimes used for scholarship examinations as well as for entrance examinations. Child guidance is another activity in which intelligence tests are of great value. These tests are also useful in the clinical study of 'problem' children and in vocational guidance and selection. Whenever it is important that an individual's general mental capacity should be assessed, an intelligent test, scientifically constructed and standardized, should be employed.

CHODHARAS

By

Dr. D. P. KHANAPURKAR

[Dr. Khanapurkar has worked among aboriginals of Gujarat for several years, and his thesis on the aboriginal tribes of the Dangs area, which is full of valuable research material is shortly to be published. In this article, the author has given an interesting and authentic account of the ancient tribes of Gujarat, which has been considered aboriginal but which is fast advancing in education and prosperity.—EDITORS]

One of the most civilised and educated tribes in Gujarat, the Chodharas number 49,453 souls in Bombay Presidency. They are found in largest number in Baroda State, where their numerical strength is 43,205. They are also found in Bansda State. Naladara village in Navasari district of Baroda State, is a jagir village of a Chodhara family.

They claim Rajput descent. According to their traditional account they were once carriers in Rajput kingdoms of North Gujarat, whence they fled south, at the time of Musalman invasion.¹ This tradition is also confirmed by the claims of the purest division among them, called Chokhapurias or Pavagadias. They claim the goddess Kalika of Pavagad hill, near Chapaner, in North Gujarat, as their patron deity.

The Chodharas have different Kuls² among them. Some of them are : Bhāṭeliā, Desāi, Dhaḍiā, Garāsiā and Vāḍakhoiā. They can marry among the same kul, but not within six or seven degrees of relationship.

Their language is corrupt Gujarati. Following are a few specimens :

Gujarati.

Pohi, ture kā nāma ?

(Pori, tāru su nāma ?) Miss, what is your name ?

Tu kā karatiyā ?

(Tu su kare che ?) What are you doing ?

Kā che javāno ?

(Kyā javāno che) Where are you due ?

1. *The Tribes and Castes of Bombay* by R. E. Enthoven, Vol. I, pp. 289.

2. Kul means a family believed to have been descended from a common ancestor.

The dress of Chodhara women consists of a cloth, four yards in length, wound round the waist. The stripes at the end of the cloth, are sufficient to mark out a Chodhara woman. The other half of the cloth is thrown over head. The upper part of the body is covered by 'Polaku' or a bodice, open at the back. They wear their hair in plaits. The Chodhara men wear dhotee, shirt and a cap.

The ornaments of Chodhara women consist of 'chokadi', 'kap' and 'karger' in their ears, 'gathu', 'kidia' and 'hado' of rupee coins in their neck, 'vala', 'dohola', 'kavali' and 'kada' in arms and 'kallas' in legs. The 'valas' worn by Chodhara women, are peculiar to their tribe.

Turning to their customs in detail, we find that when a child is born, its navel-cord is cut by a midwife with a stalk of bamboo or juvar (sorghum vulgare). In Mahuva taluka of Navasari district, a knife is used to cut the navel-cord. The midwife digs a hole in the backyard of the house and puts rice-heaps, as well as two leaves of khakar (*Butea frondosa*) in the hole. Then she places the cord and fills the hole with earth. A stone is placed above it and the mother of the baby is bathed on this stone. On the fifth or sixth day after the birth of the child, 'Pachora' is observed. On this day four rice-heaps are placed on the spot, where the child is born and two rice-heaps are placed near the stone, on the cord. These rice-heaps are worshipped with 'kunku' and orthodox people drop drops of liquor before these rice-heaps. The midwife obtains one rupee and five seers of grain. She pays back one pice to the child. Then she hands over the child five times to its mother. On tenth day or after one and a quarter month in some places, the mother goes to a well or a river. There she puts rice-heaps and applies 'kunku' to the heaps. She salutes the heaps and returns home. Till this day a scythe is placed under her pillow to ward off evil influences.

Next important event in life is marriage. The marriage rites are very elaborate. The parents of the boy, first visit the parents of the girl. They are accompanied by two or three relatives. If they like the girl, they fix a day for visiting the house of the girl, again. On this day, the boy with his parents and other relatives goes to the house of the girl's parents. A cask of liquor is bought. A Bhagat (holy man) places rice-heaps before the cask. Then he applies 'kunku' to the rice-heaps representing dead ancestors, and to the cask. A few drops of liquor are poured on the ground. The boy then places in the lap of the girl, one rupee and four annas, cocoanut and one and a quarter seer sugar. Then the boy and the girl stand facing each other and apply 'kunku' to each other's forehead. The girl then salutes the elders. All the assembled persons then drink liquor. Thus the betrothal is fixed. Dej (bride-price) is also fixed at this time. It varies from thirty-five to sixty-five rupees. On a fixed day, two persons from the boy's party visit the girl's father, with the money. Two persons from the girl's side, welcome them. Then the persons from the girl's side and the boy's side apply 'kunku' to each other's forehead and then to the rupee coins. Then the dish, containing the rupee coins is carried inside the house. A small girl then shuts the door. She is paid one anna for opening the door. After taking dinner the persons from the boy's party, return to their dwellings.

Then a marriage day is fixed. The custom among the Chodharas, necessitates the bridegroom to visit the bride's house, for marriage ceremony. Three days prior

to the marriage day 'khataras' (stones, representing dead ancestors) are worshipped. Then turmeric and oil are applied to the bridegroom and the bride, by 'Suvasinis' (married and unwidowed women) with leaves of mango and fig, two or three times a day. On the day prior to marriage day, a pandal is constructed before the house of the bridegroom and the bride. The pandal has five or nine pillars. The central pillar is of kakad (*Garuga pinnata*) tree. Before inserting the central pillar in the hole, grains of rice, one pice and 'kunku' are dropped in the hole. 'Kunku' is applied to all the pillars and mango leaves are tied to them. The central pillar is placed in the hole by two virgins and two bachelors. Toran (buntels) of mango leaves are tied to the pandal.

The marriage takes place generally at night. On that day, the bridegroom wears a 'Ful-topi' (flower-cap) on his head and holds a cocoanut in his hands. A tilak (dot of 'kunku') is marked on his forehead, collirium is applied to his eyes and dots of the same are marked on his cheeks. In procession, the bridegroom starts for the bride's place. The maternal uncle or 'Handavario' (sister's husband) lifts him till 'toran'. The 'Handavario' holds a sword in his hand. The bridegroom is followed by his sister. She is called 'chakavari' or 'haravan'. She holds a dish, containing rice, ghee-lamp, sugar, betel-nut and an anna coin. The bridegroom's procession halts at a fixed place. The bride's brother, accompanied by other persons, goes to receive the bridegroom. The maternal uncle of the bridegroom lifts him and brings him, near the 'toran' of the bride's pandal. The sisters of the bride, then hold a bamboo, to obstruct the bridegroom from entering the pandal. They are paid eight annas, and then they retire. Then turmeric is applied to the bridegroom, who is sitting under the pandal. The remaining turmeric is applied to the bride, who is sitting near mortar, inside the house. Her hair are combed by the women from the bridegroom's party and a black-bead necklace is tied round her neck by the bridegroom's sister. Then a saree, bodice, 'phadaki' (cloth worn over head) and ornaments are presented to the bride. Dressed in these new robes and ornaments, she enters the pandal and stands on 'pat', near the bridegroom. Both face east. The 'pat' consists of rice-heaps, covered with a cloth. The bride's mother then applies 'kunku' and rice grains to the forehead of the bridegroom. She waves a lamp round his face and gives him a silver ring or gold ring. Then the bridegroom's mother applies 'kunku' and rice-grains to the bride's forehead. Then the hems of the garments of the bride and the bridegroom are tied into a knot by the latter. The bride unties the knot. Then the bride ties the knot and the bridegroom unties it. This is repeated four times. The newly married couple is lifted on shoulders and carried to the bridegroom's temporary abode in the village. There all including the new couple partake of dinner. After dinner, the bride goes to her father's house, with her mother.

In the morning the hair of the bride are combed. In the meanwhile the bridegroom and his party arrives at the house of the bride. The bridegroom pays few coins to the female relatives of the bride. The weeping bride is dragged by the bridegroom's party. The husband of the elder sister of the bride, then lifts her and places her in the cart. Then they go to the bridegroom's place. In front of the pandal stands the bridegroom's sister, with a pot of water on her head. One rupee and four annas are dropped in the pot. Few coins are paid to the villagers, who hold a bamboo across the path of the new couple. The bridegroom's mother waves round the faces of the bride and

the bridegroom a pestle, churning rod and mango leaves. The bridegroom's sister washes their feet and gives them rice-grains. The couple salutes the threshold and enters the house. The bridegroom's sister then shuts the door. After obtaining a rupee, she opens it. The bridegroom then conducts the bride to the hearth. She salutes the hearth.

Next day the bride and the bridegroom, with hems of their garments, tied into a knot, go to worship the village gods. Then they go to river, and place rice-heaps there, on the bank, after which they return home and the bride unties the knot. The bridegroom ties it again for three times and the bride unties it. Then the bride ties the knot four times and the bridegroom unties it. Then the bride bows to the elders. The sword, carried by 'Handavaria' (husband of the sister) is sprinkled with water and 'kunku' and placed aside. The bride's party then returns to their village.

After five days the bride's parents arrive to take her to their house. After five days the bridegroom goes to the father-in-law's house to invite the bride back. At this time the bridegroom pays one rupee to the bride's mother. This ends the marriage rites.

The system of 'khandadia' prevails among Chodharas. In this sort of marriage the bridegroom serves the bride's father, in lieu of Dej (bride-price). After the end of the fixed period, the marriage takes place, according to the above rites.

Divorce and widow-marriage is permissible among Chodharas. In case of a divorce, a meeting of 'Panch' (tribal council) is called and they are requested to grant divorce. The 'Panch' summon both the parties and after hearing the case, fine the guilty party. They grant divorce, if both the husband and wife are unwilling to live together.

A widow is allowed to marry her husband's younger brother. Dej (bride-price) for a widow varies from fifteen to twenty rupees. If a bachelor marries a widow, she is first married to a Rui (*Calotropis gigantea*) plant. And if a man is a widower and the girl a virgin, then he is first married to a Samadi (*Prosopis Spicegara*) plant. In case of a widow marriage, the man goes to the widow's house, with a saree, bodice, 'phadaki' (cloth thrown over head) and ornaments. The woman wears this new dress. Then they go to a Samadi (*Prosopis Spicegara*) tree. Near the tree a branch of Rui (*Calotropis Gigantea*) is placed.

Rui plant represents the male and Samadi represents female. Black-bead necklaces are tied round the trees; similarly turmeric is also applied to the trees. Then the man and the woman bow to these trees and return to the woman's house. Near the mortar in the house, a remarried widow ties black-bead necklace to the woman. Then they start at night for the man's house and enter it at night. If they are late, then they pass the day under a tree and enter the house at night. Before entering the house, they bow before the threshold.

The last important event in a man's life is death and the funeral ceremonies are intricate and elaborate, as will be seen from the following account. A dead body is bathed with warm water, near mortar by the women. Then it is dressed in new clothes. All the ornaments of the dead are put on the body. Turmeric is applied to the body, and dots of 'kunku' are applied to the ends of hands and feet. Curds and

cooked rice are placed in a bell-metal dish. The dish is covered with leaves of Palas (*Butea frondosa*). If the wife of the dead is living, she places her bangles, black-bead necklace and bodice near the head of the corpse and salutes it. Then the dead body is carried out of the house, with its head to north. At Isava or Isamanu (halting place) outside the village, rice-grains are scattered and the bier is placed there. Then women place there the bed of the dead and his drinking vessels. The women return home from this place. A few coins are placed in the hands and the mouth of the corpse. The pall bearers then turn the head of the corpse to the south and carry it to the cremation ground. Rice-grains are thrown there and the bier is placed. Then half the full size of the pyre is arranged and the corpse is moved four times round the pyre and then placed on it. The mouth of the corpse is cleaned with tooth-stick of Palas (*Butea frondosa*) and water is poured in the mouth. A lump of cooked rice is placed on the mouth and few drops of liquor are dropped in the mouth. Then the corpse is covered with wood. The first stump is placed after uttering : "It is not placed on you, but on your enemy." (*Torepara nathi mukatā ; tore dushmanapara mukatā*). The pyre is then kindled with ignited cowdung ball brought from home. It is kindled from two ends and fanned with leaves of Khakar (*Butea frondosa*). The earthen-pot is crashed at the side of the head. Two axe-blades are thrown across the burning pyre four times. A piece of cloth, on the corpse, is torn and tied to one of the axe-blades. Then all go for a bath and wash the axe-blade, having the rag. Then drink is offered to the assembled. Then the party returns home. The axe-blade with the piece of cloth is tied to a peg, near the spot where death has occurred. The axe-blade is worshipped and drops of liquor are dropped before it. Next day five or six persons go to the cremation ground and wash down the ashes of the dead. On the spot of the pyre, an earthen-pot and a ghee-lamp are placed. After taking bath they return home. In the evening on the spot, where death has occurred, a ghee-lamp is placed on a heap of rice. On a palas (*Butea frondosa*) leaf, a lump of cooked rice, with milk or curds, is placed before the lamp. Drops of liquor are also dropped before the lamp. Flour of rice is spread round the lamp, to diagnose from the marks on the floor, the next birth of the dead. The ghee-lamp is covered with a basket, at night.

Dahado (funeral rites) are held on the third day. Nine leaf-plates are prepared and cooked food is placed on them. The leaf-plates are carried in a new bamboo-basket to the cremation ground. Four tubes, two of which are of castor-oil plant and two of bamboo are also carried to the cremation ground. Two tubes contain rice-gruel and two contain cow's urine. Besides these, two leaf-cups of khakar (*Butea frondosa*), an earthen-pot, a davalī (dried bottle-gourd used as drinking vessel) and four 'hapalis' (small bamboo chips, cut in four and tied together) are taken to the cremation ground. At Isamanu (halting place) one leaf-cup, containing dinner and 'davalī' are placed, in the name of the dead. Women sit there till the crow touches the food. Then they go to river and take bath. At the cremation ground, two sticks of sag (*Tectona grandis*) and two of kakad (*Garuga pinnata*) are erected like pillars of miniature pandal. The miniature pandal is covered with Darbha (*Poa Cynosuroides*) grass. Under this pandal, an earthen-pot is placed, along with four 'hapalis' and four leaf-plates, containing dinner. The rim of the pot is broken with a scythe. On the mouth of the pot is placed a leaf-cup of khakar (*Butea frondosa*). Lumps

of food are taken from the remaining five leaf-plates and are placed in the leaf-cup, on the pot. Then these leaf-plates are placed aside and water is sprinkled round them four times. Then the leaf-cup is placed on the miniature pandal, upside down. Another leaf-cup is placed on the pot. This is also filled with food from the five leaf-plates. Then water is sprinkled round these leaf-plates, four times. The leaf-cup is then taken to the river-bank and water is sprinkled round it. Liquor drops are also poured before it. After taking bath, the party then returns home. All relatives assemble in the house of the dead person. The axe-blade with rag tied to it, is placed in the midst of the assembly. Near it is placed a leaf of khakar (*Butea frondosa*) with Val pulse (*Dolichus lablab*) on it. Liquor is also poured before the axe-blade, in the name of the dead. An elder then presents a white turban to the chief mourner and ties it round his head. The turban contains an anna coin, tied to the end.

Stones are raised to commemorate the dead ancestors. They are called 'Khataras'. In every village a plot of ground is set apart to raise 'Khataras'. 'Khataras' are raised before the next festival, after the death has occurred. Otherwise the family cannot observe the festival. On the day of raising 'Khataras', a bhagat is invited. Red and white flags of cloth are bought. The bhagat (holy man) after arriving, sits in the cattle-shed and begins to nod his head, seized by the spirit of the dead. After a while the relatives of the dead offer him water from a palas (*Butea frondosa*) leaf-cup. Then the bhagat, accompanied by relatives of the dead goes to a river. After searching a good stone, he cleans it with milk, ghee and water, respectively. Then he applies red-lead to it and places rice-heaps before it. Again the bhagat nods his head and declares that the dead person desires to have a particular seat and particular sacrifice. Then all return to the house with the stone and place it near mortar. All relatives offer cooked rice and liquor to the stone, representing the dead. Then one person places the stone in a basket and lifts it. Accompanied by four or five persons, he dances round Tarapavala (village musician) four times. Then the stone—now called 'Khataras'—is carried to the reserved place for 'Khataras' and placed there. A hen is sacrificed and liquor drops are poured before the 'Khataras'. Sometimes 'Ghoda-ghumat' (a dome of clay, having clay-horses on top) is placed over the 'Khataras', if directed to that effect by the bhagat. On Divaho (fifteenth day in the dark half of Ashadh) and on thirteenth, fourteenth and fifteenth day in the dark half of Bhadrapad, a hen is sacrificed before Khataras and liquor drops are poured in front of them. A leaf of khakar (*Butea frondosa*) containing cooked dinner is placed on the roof, in the name of the dead.

These are the customs and rites observed by Chodharas, in general. They pay great respect to goddess 'Devali' and 'Jogan'. Sivardev (god of boundary) and Kakabalia (god of small-pox) are also highly honoured by them. The goddess 'Jogan' has her famous shrine at Malavada in Surat district. Pavagadia Chodharas worship Kalika for the first nine days in the month of Ashwin. On the next day, i.e. Dasara, a goat is killed in her honour. Throughout the nine days, a lamp is kept burning before the goddess. Chodharas observe the festivals of Divaho (last day of Ashadh), Balev (full-moon day in Shravan), Divali (last day of Ashwin and first day of Kartik) and Holi (full-moon day of Falgun).

Chodharas are agriculturists by occupation. As said above, the Chodharas are not lagging behind in education. Even Chodhara girls are taking advantage of higher

education. The educated section among them has discarded the use of liquor in religious ceremonies. The future is bright for them and I hope that within a few years they will be as educated as any other advanced community and will occupy their proper place in the national life.

MARRIAGE-SONGS OF KATHIAWAD—III*

By

J. K. MEGHANI

To return to our point. Reduced to a mere convention, the riddle which at first must have been a genuine intelligence test in the selection of a husband, is at present preserved as a stereotype in the following marriage songs :—

- “ પેલું તે મંગળ વરતીયું, સખી સામે દિયો શ્રીરામ,
 “ ધરમાં તે લીલું શું વખાણીએ, ઉત્તર દિયો વરરાજ.
 “ લીલા તે પોપટ પાંજરે, લીલી તે નાગરવેલ,
 “ લીલી તે ચોરી ચોગણી, લીલા ચોરીના થંભ.
 “ ખીલું તે મંગળ વરતીયું, સુખી સામે દિયો શ્રી રામ,
 “ ધરમાં તે પીળું શું વખાણીએ, ઉત્તર દિયો વરરાજ.
 “ પીળાં તે પીતાંબર ઘોતીયાં, પીળી ચણાની દાળ,
 “ પીળાં તે વરરાજના વાંકડા, પીળી કન્યાની જાલ.
 “ ત્રીજું તે મંગળ વરતીયું,—સખીં.
 “ ધરમાં તે રાતું શું વખાણીએ—ઉત્તરં.
 “ રાતા તે રંગના ચૂડલા, રાતા કન્યાના દાંત,
 “ રાતાં તે વરરાજનાં મોળીયાં, રાતા કંકુના થાળ.
 “ ચોથું તે મંગળ વરતીએ—સખીં.
 “ ધરમાં તે ઘોળું શું વખાણીએ—ઉત્તરં.
 “ ઘોળા તે ધમળા વખાણીએ, ઘોળાં તે ભાર કપાસ,
 “ ઘોળાં તે ઘોખી ઘોવે ઘોતીઆં, ઘોળી અગલાંની પાંખ.
 “ પાંચમું તે મંગળં.
 “ ધરમાં તે કાળું શું વખાણીએ.
 “ કાળા તે ગેમર હાથીડા, કાળી તે કાજળ રેખ,
 “ કાળાં કાચલડીનાં અચળાં, કાળા મેઘ મહાર.”

(TRANSLATION.)

“At the first holy round the bride advances the riddle : What is the green that be praised in the home, reply my god, o groom !

* Continued from page 203 of Vol. VI, No. 4, 1944.

"The groom replies : Green is the parrot in the cage, green the betel-creeper ; fourfold green the nuptial square, and greener are its columns four.

"At the second holy round : What be the yellow ?

"Yellow are the wedding costumes, yellow the pulse of gram, yellow the bridegroom's golden armlets and yellow the bride's nose-ring.

"At the third round—What be the red ?

"Red is your ivory-bangle, red are dyed your teeth O bride ; red the bridegroom's turban and red the *kumkum-plate*.

"And then white ?

"White are oxen and the plentiful cotton in the farm. At the river-bank the washerman washes how white ! and the wings of a crane are lovely white.

"Lastly the black—

"Black are the majestic elephants, the collyrium-line in my beauty's eye, the young ones of a cuckoo, and the raining cloud."

The five (in fact four) holy rounds at the nuptial-fire which total up to set the scriptural seal on marriage, are thus beautified by a very very simple riddle-song. An atmosphere of multi-coloured domesticity is sought to be produced through this poetic device, and the first contact is established between the couple

Songs continue agalore in the scarlet-domed bullock-cart as it by-passes village after village on its homeward journey. Her face wrapped into the veil of her headwear, the bride sits silent, who knows half-crying and half-amused as the songs of frolic and fun go on unceasing around her. At last as the groom's village draws near, folk-muse seeks to lift the dark veil through a song—

"ગોરાં લાડણુ વહુ તે લાડડાને વીનવે,

"તારા ગામની સીમડીયું દેખાડ રાયખદા રે

"લાલ છેડા લટકાં કરે,

"તમે આવેરાં ઓઢો ગોરી ઓઢણાં,

"મારા છોગલાને યાચે ચાલી આવ મારી ગોરી રે

"લાલ છેડા લટકાં કરે."

(TRANSLATION.)

"The charming bride asks her groom : Show me now the outskirts of your village, my Prince !

"The scarlet veil-fringe dangles 'twixt her fingers.

"With pleasure my love ; now push back your headwear a little, come down and walk along with me, walk under the shade of my turban's dangling crest.*

* I am baffled in attempting a translation of the word *છોગું* (*chhogun*). The embroidered and gold-laced end of a Kathiawadi bridegroom's turban protrudes and waves at the top of his forehead like the crest of a peacock. It is looked upon as a mark of his virile manhood, besides being a beautifier. Same is the case with terms like *ઇંદોણી* (*indhoni*), *બેડું* (*bedun*), *કલશ* (*kalash*) etc. An esteemed friend rightly takes me to task for translating these terms into English, because they are not mere words but images of the highly artistic and picturesque articles of our indigenous aesthetic life, having no equivalent in the English life. To translate a pair of well-shaped water-pitchers called *બેડું* (*beduni*) as 'water-jars' and the *ઇંદોણી* (*indhoni*—a pearl-bedecked and round-shaped cushion of dried grass on which the pair of waterful pitchers are ported, unsupported by hand, on

"The scarlet veil-fringe dangles 'twixt her fingers."

The same lines are repeated until one by one the pastures, the green fields, the gate, the bazar and the street of the township are being shown to the new lady, her veil cast off and her tender skin protected from sun by the young man's turban-crest dangling over his head. Folk-muse gives her the right to walk closest by her husband's side—a perfect picture awaiting an artist's brush!

The conquering hero comes home, and the country-tabours sing him a full-throated welcome—

"મોલ પધારો રાજ,

"તમે સોનાની શરણાયે મોલ પધારો રાજ!"

Folk poetry makes no secret of the spirit in which the bride is obtained—

"આજ મારે ભર્યાં રે સરોવર છલિયાં, રે આનંદભર્યાં.

"આજ અમે ઇડીરીઓ ગઢ છતાં, " "

"આજ અમે લાખ ખરચીને લાડી લાવ્યાં, " "

"આજ અમે...લાઇને હસતા દીઠા " "

"આજ અમે વેવાઇને રોતા દીઠા " "

"To-day we conquered the strongest fort, o the joy!

"To-day we bought the bride at a lac, o the joy!

"To-day we saw the groom's father rejoicing, o the joy!

"To-day we saw the bride's father weeping, o the fun!

Rather a cruel fun at the cost of the poor new lady!

Thus the day is over and the scene is entirely changed at nightfall, as the bride enters the bed-chamber.

હાં હાં રે હમલી લીલી દાંડીનો જમરખ દીવડો

" " " રમઝમતાં મેડીએ ચઢ્યાં

" " " વગર તેજાં ગોરી શીદ આવ્યાં!

" " " આછી પછેડી ઓઢવા આવ્યાં

" " " પાતળીઆ પગ ચાંપવા આવ્યાં

" " " સેવૈયા લાડુ જમવાને આવ્યાં.

(TRANSLATION.)

"Ha! Ha! a charming lamp of handle green in her hand.

"Ha! Ha! the bride goes up the staircase, her anklets all a-jingle.

"Ha! Ha! why came uninvited, my damsel!

"Ha! Ha! I came to slumber under your muslin sheet.

"Ha! Ha! I came to shampoo your weary legs.

"Ha! Ha! I came to feast on sweet at your hands.

Sweet slumber at the first nuptial night and a sweeter dream that a night like that induces. How could such a dream go without a song! The dream is reported

the folkwoman's head all the way from the well or the riverside up to her home) as a 'jar-cushion' is indeed outrageous. But I am helpless. I wish it were possible for this Journal to reproduce on its pages, the illustrations of such things,

at dawn to the aptest interpreter, the sharer of soft sheet. Like the riddle the dream is also interpreted—

હું સૂતી રે મારા રંગ રે મોલમાં, સૂતાં તે સપનાં લાગીઆં છ રે.
 ઊંડણ જળકશી મેં તો સપનામાં દીઠાં, માનસરોવર ભર્યાં દીઠાં રે
 આંગણે હાથી મેં તો સપનામાં દીઠાં, કુંભ કળશ ત્યાં ભર્યાં દીઠાં રે
 આંગણે આંબલો મેં તો સપનામાં દીઠો, જાઈ જાવંત્રી ઢુંગે ઢુંગે છ રે
 મોતીના ચોક મેં તો સપનામાં દીઠાં, લીલી હરિયાળી ત્યાં બહુકળી છ રે.
 મેડીએ દીવડો મેં તો સપનામાં દીઠો, કંકુકેસર કેરાં છાંટણાં છ રે
 સૂતા જગો મારી નણદીના વીરા, સપનાના અરથ ઉકેલજો છ રે.

ઊંડણ જળકશી ગોરી ! મૈયર તમારું, માનસરોવર તારું સાસરું છ રે
 આંગણે હાથી ગોરી ! વીરો રે તમારો, કુંભ કળશ તારા કુળનાં છ રે.
 આંગણે આંબલો ગોરી ! સસરો તમારો, જાઈ જાવંત્રી સાસુ તારી છ રે.
 મોતીના ચોક ગોરી ! કંથ તમારો, લીલી હરિયાળી નણુંદ તમારી છ રે.
 મેડીએ દીવડો ગોરી કુંવર તમારો, કંકુ કેસરીઆં વવારું છ રે
 ઘણું જીવજો રે મારી નણદીના વીરા, સપનાના અરથ ભલા કર્યા છ રે

(TRANSLATION.)

"My love ! I dreamt a dream while sleeping in your lovely chamber.

"I dreamt of the flight of swans and a brimful lake.

"I dreamt of an elephant at our door and holy water-jars.

"A mango tree in our courtyard, and a cluster of fragrant spice-plants.

"Squares of pearls laid on the floor and greenery full of fruit.

"A lamp upstairs and saffron and *kumkum* sprayed all round.

"Awake o Love ! and interpret my dream.

"The flight of swans means your father's family, and the beautiful lake means your husband's home, my damsel !

"The elephant at our door means your brother, and the holy water-jars your kith and kin.

"The mango tree means your father-in-law o damsel ! and the spice-plant means your mother-in-law.

"The square of pearls means your loving mate, and the greenery means his sister.

"The lamp upstairs means your first-born son, and the yellow-red dots means yourself, his wife.

"May you live long my love ! how apt you made out my dream !"

We shall conclude this long-drawn article with a song that comes last in the link as arranged by me. It is sung by the female-folk of the lady's parent home on return after a brief stay at her husband's.

કાળી તે કાયલ શબ્દે સોયામણી,
 આવે રે કાયલ આપણા દેશમાં.
 કેમ કરી કાયલ ! એ વન વાસ્યાં ?
 કેમ કરી સુડો રાણો રીઝવ્યો ?
 આંખા આંખલીએ એ વન વાસ્યાં,
 ટોકલે સુડો રાણો રીઝવ્યો—કાળી૦

કેમ કેરી બેનીઆ એ ધર વાસ્યાં ?
 કેમ કેરી નાહોલિયો રીઝ્યો ?
 દીકરા દીકરીએ એ ધર વાસ્યાં
 નેણુદે તે નાહોલિયો રીઝ્યો.

(TRANSLATION)

Lo ! the black cuckoo comes home, the sweet-voiced cuckoo.
 Tell us sweet cuckoo, how did you people those woodlands.
 And how did you please your mate ?
 I peopled those woodlands now with the trees of mango and tamarind,
 And I pleased my mate with sweet cooings.
 The sweet-voiced cuckoo comes home, lo ! the black-bird cuckoo.
 Tell me sister, how did you people the new home ?
 And how did you win your husband's heart ?
 I peopled the new home with daughters and sons,
 With the charm of my eyes I won his heart.

The same old thing in the end : procreation and perpetuation of married love ensured through ever-fresh charms. The two-fold function of the wedded folk life--no matter whether new age likes it or not, the folk muse refuses to camouflage.*

THE LATE PROFESSOR SHAPURSHAH H. HODIVALA, M.A.

By the death of Professor S. H. Hodivala, which took place on the 26th November 1944 at Santa Cruz near Bombay, at the age of 77, not only Gujarat but all India has lost one of its most distinguished and accomplished numismatists and historians. Born on the 10th October, 1867, Prof. Hodivala received his early education at Bandra and Navsari, and joined the Elphinstone College in 1883 at the time when Dr. W. Wordsworth (the grandson of the Poet) was its head and scholars like Mr. (afterwards Sir) G. W. Forrest, Mirza Hairat, Dr. Peterson, and others, were members of its staff. Mr. Hodivala graduated in 1888 with a First Class, having taken up History and Political Economy as his optional subjects, and he was appointed a Fellow of the College and later took his Master's degree.

After serving for some time on the staff of the Baroda College and the Wilson College at Bombay, Mr. Hodivala joined the newly established Baha-ud-din College at Junagadh in Kathiawar in 1902 as Vice-Principal and Professor of History, and inspired by his lectures in that historic capital-city a whole generation of undergraduate students in Kathiawar. He was appointed Principal at the same institution in 1920 and retired from Junagadh State Service in November, 1927.

Professor Hodivala early devoted his exceptional abilities to the work of research in Indian history and numismatics, and his activities in this connection, lasting for full half a century, made him soon an acknowledged authority in these subjects. He specialised in the long Muslim period of Indian History and had an unrivalled knowledge of the original sources in Persian bearing on this period. His critical faculties were of a high order and he spared no pains in the sifting of historical evidence to

* All the songs and stories quoted in this article are from the author's own published collections.

arrive at the truth. He had also a graceful and polished style and his writings were not dull compositions. As a numismatist, his name, like that of the late Dr. Geo. P. Taylor of the Irish Presbyterian Mission at Ahmedabad, maintained the reputation of the Bombay Presidency in this field of research, and his valuable cabinet of coins was, some years ago, acquired by the Prince of Wales Museum at Bombay. Professor Hodivala was elected President of the Numismatic Society of India for the year 1922, and his learned articles in the Journal of the Asiatic Society of Bengal, followed by his *Studies in Mughal Numismatics*, made his name familiar to students of Muslim Indian coinage both in India and in Europe.

After his retirement from active duties at the Baha-ud-din College, Professor Hodivala devoted his leisure to the preparation of a critical and elucidatory Commentary on the eight volumes of Elliot and Dowson's "History of India as told by its Own Historians", which was the first great attempt at editing and translating extracts from the medieval Persian histories of India. Being a pioneer undertaking published in the last century this elaborate work left naturally many lacunae to be filled up and many errors to be rectified. Professor Hodivala was probably the only scholar in India competent to undertake the function of subjecting it to a critical examination by his wide knowledge of the sources and literature on that period. To this task, as Sir Richard Burn observes, he brought 'the ripest fruits of life-long scholarly studies', and the first volume was published some years ago under the title of *Studies in Indo-Muslim History*. It is a matter of no small satisfaction to us that, only shortly before his death, the veteran historian, in spite of growing infirmities, completed the final revision of the manuscript for the second volume of this work, which he has thus left completely ready for publication. These two volumes will place before all future writers on Muslim Indian History a high standard of critical investigation and mature scholarship.

The activities of this versatile Parsi scholar did not end here, for he became early interested in the history of the Parsis in Gujarat and in the collection of available historical materials bearing on the same. He gave several lectures in Bombay based on these materials. In 1920 he published his *Studies in Parsi History* and this was followed in 1926 by another work on the same subject, being a series of five lectures delivered in 1925 at the K. R. Cama Oriental Institute, Bombay, as the Government Research Scholar for the year.

As Professor and Principal of a College affiliated to Bombay University, Prof. Hodivala brought honour and distinction to his *Alma Mater*. He was also an esteemed member for over 40 years of the Bombay Branch of the Royal Asiatic Society, and this body showed its appreciation of his learning and scholarship by awarding him the Campbell Memorial Gold Medal which was presented to him by Sir Frederick Sykes, then Governor of Bombay, on the occasion of the 125th Anniversary of the foundation of this Society.

M. S. C.

MR. BEHRAMGORE TEHUMURASP ANKLESARIA

I had known Mr. Behramgore Anklesaria since 1928 and had learnt to esteem him for his deep learning and his sterling character. We had sharp differences of

opinion on many points but that never marred the harmony of our relations which were friendly and cordial to the end.

Born on 10th of October, 1873, Behramgore Anklesaria inherited through his ancestors a love for ancient Zoroastrian lore. His father the late Ervad Tehmurasp Dinshahji Anklesaria was one of the first band of Parsi Iranists who have achieved fame. Trained under his father's guidance, Behramgore fulfilled all the expectations of his teachers and achieved a fame even greater than theirs. About the depth of his learning there were not two opinions. I have always looked upon him as one of the greatest scholars of Pahlavi in the world. But he was frank and truth-speaking to the verge of rudeness and that made him many enemies and certainly stood in the way of his being recognised and appreciated as he deserved to be. Still that same fearless adherence to what he believed to be true also won for him the true admiration and love of his numerous friends.

He took the keenest interest in all matters connected with Zoroastrian beliefs and ceremonial and his learning was always used to guide his community along right and progressive lines. Throughout his long career as teacher from 1894 to the end of his life (25th November, 1944) he was delivering innumerable lectures and writing continuously. He has edited and in a very scholarly manner numerous Pahlavi texts some of them admittedly among the most difficult in that language. Of considerable interest is his edition (in collaboration with his wife) of Mobed Rustam Peshutan Hamjār's Zartoshtnāmūn (1932), an old Gujarati poem dated about 1680 of the Christian era.

Behramgore has published numerous essays and has edited numerous ancient Pahlavi Texts. Among the most important are the following :

(1) The Bundahishn (a facsimile reprint from a ms. in possession of his father), 1908.

(2) The Pahlavi Texts in Codex MK. (in possession of the late Dastūr Jāmāspji Minocherji Jāmāsp-Āsānā), 1913.

(3) Dastur Hoshang Memorial Volume, 1918.

(4) Kārāmā-i Artakhshir-i Pāpakān, 1935.

(5) Rivāyat-i Hamīt-i Ashvahištān, 1935.

Among his unpublished works may be mentioned :

(1) The Pahlavi Vendidad, text with a full translation.

(2) The Gāthās with English and Gujarati translations.

He has lived a full and useful life and has passed on to his reward. May he rest in Peace !

IRACH J. S. TARAPOREVALA.

THE ITIHASA SAMMELAN, AHMEDABAD

This informal conference convened by the Gujarat Sahitya Sabha, Ahmedabad, on 23rd, 24th and 25th December, 1944, was an event of inter-provincial importance. The sessions commenced on 23rd December with the opening ceremony of an Historical Exhibition by Mr. G. V. Acharya, the retired Curator of the Prince of Wales Museum and one of the Founder Member of the Gujarat Research Society. He emphasised the necessity of a Museum at Ahmedabad to house the antiquities of Gujarat, Kathiawar and Cutch in respect of inscriptions, copper plates, coins, seals, manuscripts,

etc., and suggested that these antiquities should be acquired at the cost of the nation before they are dragged into foreign museums.

The welcome address of Moulvi Sayyad Abuzafar Nadvi described the historical glories of Ahmedabad in high flown Urdu printed in Gujarati script.

The inaugural address of the full sessions was delivered by Mr. K. M. Munshi, one of the Vice-Presidents of the Gujarat Research Society and the President of the Bharatiya Vidya Bhavan. In his usually brilliant style, he stressed the idea of continuity of history, where limitations of time and geographical boundaries were not merely artificial but non-essential. He suggested the cosmic aspects of historical study, where coordination was necessary from the cognate sciences of geography, geology, biology, ethnology, anthropology, philology, sociology and economics, and declared that history was a continuous story of the evolution of mankind.

Muni Jinavijayaji, Professor of Prakritic Languages and Hindi at the Bharatiya Vidya Bhavan at Bombay, who was the President of the Sammelan compared history to a cyclopædia of human race. He enumerated among the qualifications of the historian, love of truth, impartiality of attitude, all-sided research and capacity for comprehensive synthesis.

Shri Durgashankar Shastri, Professor of Bhagavata Dharma, at the Bharatiya Vidya Bhavan and a Foundation Member of Council of management of the Gujarat Research Society was the Vice-President. His address dilated on the cultural aspects of history from the point of view of nations rather than things. He laid stress on the history of the common man of the lower strata of society consisting of the farmers, artisans, labourers, bhils and aboriginals which according to him was the real foundation of the history of a nation.

The most important feature of the gathering was the exhibition of historical relics of Gujarat. Besides stone and metal images illustrating the iconography of Gujarat, and specimens of coins, inscriptions, manuscripts, paintings, arms, dress and implements providing materials for a cultural history of the country, there were modern maps describing the boundaries of the Gujarati influence at various epochs in its history. This exhibition should provide a nucleus for the Museum which Ahmedabad is due to establish in the next few years.

The cooperation of important writers on historical subjects was secured and there were as many as twenty-two papers submitted but these could not be read. An element of popular interest was added by the public discussion on "The Historical Novel, and History". At a special session of teachers, an interesting discussion was held on the teaching of history.

Several formal resolutions were passed at the open sessions, the most important of which were that pertaining to the organisation of an independent society for historical research and the appointment of a committee for that purpose. The suggestions were also made for protection of ancient monuments in the Indian states, of manuscripts, inscriptions, copper plates, documents, idols, palias, etc., by temples, societies and private individuals. The three days sessions proved extremely interesting and useful, in furthering the interest of the masses in History of Gujarat and in historical research—an object which Gujarat Research Society deeply cherishes and which it is always ready to co-operate and work for.

P. G. S.

ગુજરાતી ભાષાની ઉત્કાન્તિ*

ડૉ. ડી. એન. દવે

સને ૧૯૩૮-૩૯ માં શ્રી વસનજી માધવજી વ્યાખ્યાનમાલાનાં વ્યાખ્યાન આપવા મુંબઈ વિદ્યાપીઠ લેખક મહાશયને આમંત્રણ આપેલું તે અનુસાર તેમણે “તા. ૫ થી ૯ ફેબ્રુઆરી ૧૯૪૦ ની તારીખોએ ઉક્ત વિદ્યાપીઠના મહાનમાં ‘ગુજરાતી ભાષાની ઉત્કાન્તિ’ (આરમા સૈકાથી અદારમા સૈકા સુધી) એ વિષય ઉપર પાંચ વ્યાખ્યાનો આપ્યાં. તે અહીં પ્રકાશિત થાય છે.” પાંચે વ્યાખ્યાનોની વહેંચણી નીચે પ્રમાણે હતી : (૧) આમુખ, (૨) આરમો અને તેરમો સૈકા, (૩) ચૌદમો અને પંદરમો સૈકા, (૪) સોળમો અને સત્તરમો સૈકા, (૫) અદારમી સદીની ગુજરાતી અને ઉપસંહાર. અન્યની શરૂઆતમાં વિસ્તૃત વિષયાનુક્રમ તથા અન્તે વિશેષ શબ્દોની સૂચી આપી અન્યની ઉપયોગિતામાં વધારો કર્યો છે. આમુખ (પૃ. ૧-૨૧૮) માં લેખક મહાશયે ભાષાશાસ્ત્રવિષયક સામાન્ય મુદ્દાઓનું, તથા સંસ્કૃત, વેદકાલીન-સંસ્કૃત, પ્રાકૃત, અપભ્રંશ વગેરે ભાષાઓની વિશેષ ચર્ચા તેમજ ગુજરાતી ભાષાનો તેઓ સાથે શો સંબંધ છે તે બધી બાબતોનું, વિસ્તારથી અવતરણો, પ્રમાણો, દલીલો સાથે નિરૂપણ કર્યું છે, ત્યાર પછીના ચાર પ્રકરણોમાં “સૈકાવાર મળતી એક બે કે ત્રણ કૃતિઓનેજ તપાસીને તે દ્વારા પરિવર્તનોની રેખા” (પૃ. ૨) દોરી છે, પસંદ કરેલ કવિઓનો આછો પરિચય તથા તેમનો સમયનિર્ણય હુંકામાં આપી તેમની કૃતિઓમાંથી ગદ્યપદ્યના વિસ્તૃત નમૂના આપવામાં આવ્યા છે, અને તે નમૂનાઓમાં આવી જતા પ્રકૃતિ, અત્યયો, શબ્દો, વાક્યો વગેરેનાં વૈચાકરણદૃષ્ટિએ વિવરણ, વ્યુત્પત્તિ, રૂપાખ્યાન વગેરે યથાસંભવ બતાવ્યાં છે. આ શૈલિએ આખો અન્ય રચાયો છે.

અન્યમાં સોથી ઉપયોગી વસ્તુઓ તે તે સૈકાના પ્રતિનિધિ તરીકે વીણીકાઢેલ કવિલેખકોની કૃતિઓ છે. તેઓ પૈકી કેટલીક, જંશુસ્વામીરાસ, રેવંતગિરિરાસ જેવી પ્રસિદ્ધ થઈ ગઈ છે; જ્યારે કેટલીક હસ્તપ્રતોમાંથી પહેલીજ વાર પ્રસિદ્ધિમાં આવેલ હોઈ મોંઘામૂલી છે. વળી ઘણું ઠેકાણું, આશરે ૩૨૫ જેટલી, પુટનોટો આપેલી છે. તેમાં સંસ્કૃત, પ્રાકૃત વગેરે અન્યોમાંથી મૂળમાંજ ઉતારા આપ્યા છે તે પણ ઉપયોગી છે; કારણ કે તેમાંથી જો કે કેટલાક જાણીતા છે તોપણ ઘણા બહુ જાણીતા નથી અને તેથી તેઓ લેખક મહાશયની સંસ્કૃત અને પ્રાકૃત સાહિત્યમાં બહુશ્રુતતા અને ચોક્કસાઈ પૂરવાર કરે છે.

પરંતુ ગ્રંથનાં ગુણગાન અહીંજ અટકે છે. કારણ કે ઉપર જણાવેલ ગુણો બાદ કરતાં અન્યમાં એટલી બધી ક્ષતિઓ છે કે તેના તરફ કોઈ નિષ્પક્ષપાત વાચકનું ધ્યાન દોરવા વિના રહે નહીં. બધી ક્ષતિઓને બે ભાગમાં વહેંચી શકાય. એમાંની કેટલીક તો લેખક મહાશયના જૈનધર્મ તરફ બહુમાન, બહેકે પક્ષપાતને આભારી હોય એમ જણાય છે; અને બાકીની બધી આધુનિક ભાષાશાસ્ત્રના અન્યો અને સિદ્ધાન્તોની જાણેઅજાણે સેવેલી સામાન્ય ઉપેક્ષાના પરિણામરૂપ હોય એમ ભાસે છે. ‘શ્રીમહાવીરાય નમઃ’થી શરૂ થતા મંગલાચરણ પછી તરતજ હેમચંદ્રને ગુજરાતના પાણિનિ અને વાદ્મીકિ બનાવવાની પ્રતિજ્ઞા (પૃ. ૨) આવે છે; સાથે સાથે તેમણે રચેલ અપભ્રંશ વ્યાકરણ એ એમના વખતમાં બોલાતી (પૃ. ૧૭૯, પૃ. ૨૦૩) આદિમ ગુજરાતી ભાષાનું વ્યાકરણ છે (પૃ. ૧), તથા તેમાં આવેલ ઉદાહરણો તે વખતની ગુજરાતી ભાષાનાં તથા ઘણાં તેમનાં પોતાનાં બનાવેલ છે એવાં વિધાનો આવે છે (પૃ. ૨૦૩, પૃ. ૨૦૪). વળી પ્રાકૃત ભાષા જ નૈસર્ગિક છે (પૃ. ૨૯) અને સંસ્કૃત તો માત્ર પાછળથી બનાવી કાઢેલ યાજ્ઞિક આજ્ઞાઓની કૃતિ છે (પૃ. ૪૭-૪૮), તે કોઈ દિવસ જીવંતભાષા હતીજ નહીં એમ પણ પ્રતિપાદન કરવા ચત્ન કર્યો છે. પ્રાકૃત તેમજ અપભ્રંશ બન્ને વેદકાળથી ચાલતી આવેલ હોઈ, તથા બોલાતી વેદભાષા તેજ પ્રાકૃત (પૃ. ૮૪, ૮૫) અને તેની સાથેજ હસ્તિમાં આવેલ તે અપભ્રંશ (પૃ. ૧૫૮) હોઈ, પ્રાકૃત એ

*“ગુજરાતી ભાષાની ઉત્કાન્તિ (આરમા સૈકાથી અદારમા સૈકા સુધી)” લેખક, અધ્યાપક બેચરદાસ જીવરાજ દોશી; પ્રકાશક, મુંબઈ યુનિવર્સિટી, શ્રી હંકર વસનજી માધવજી વ્યાખ્યાનમાલાના આશરે; ઈ. સ. ૧૯૪૩; પૃષ્ઠા ૧-૨૧; ૧-૬૮૪; ચોક્કસે કંઠનો અન્ય; કિંમત આપી નથી.

સંસ્કૃતની ‘મોટી બેન’ (પૃ. ૧૭૫) અને અપભ્રંશ એ ‘નાની બેન’ (પૃ. ૧૭૫) એવી નિરૂપણસરણી સ્વીકારવામાં આવી છે. વળી તુમાખી સ્વભાવના તે વખતના જાતિવાદી બ્રાહ્મણોએ ‘અપભ્રંશ’ એવું હલકું નામ આપી અપભ્રંશને વગોવી (પૃ. ૧૫૪ નોટ ૧૪૭), વગેરે, વગેરે વિધાનો કર્યા છે. આ પ્રમાણે હેમચંદ્ર, પ્રાકૃત અને અપભ્રંશની ભક્તિમાં તણાતાં સંસ્કૃતની અવગણના થઈ છે અને બિચારા બ્રાહ્મણોના તો ભોગ મળી ગયા છે !

આધુનિક ભાષાશાસ્ત્રના ગ્રન્થો અને સિદ્ધાન્તોની ઉપેક્ષાને પરિણામે ગ્રન્થનો મોટો ભાગ સિદ્ધસાધન દોષગ્રસ્ત થઈ ગયો છે. વિક્ટોરિયન જમાનાથી શરૂ કરીને અત્યાર સુધીના લગભગ અધાય ભાષાશાસ્ત્રીઓએ ભાર દઈને વારંવાર કહ્યુંજ છે કે, કોઈ ભાષા એવી નથી કે જેમાં ખીણ ભાષાના સંપર્કને પરિણામે બહારનાં તત્ત્વો અંદર પેસવા પામ્યાં ન હોય, હિન્દની ભાષાઓ વિશે આ વિધાન સર જ્યોર્જ ગ્રીઅર્સન, બીમ્સ, હર્નલે, ભાડારકર વગેરેએ કર્યા છે. ખુદ ઇન્ડોયુરોપીઅનમાં પણ બહારનાં તત્ત્વો માલુમ પડ્યાં છે તો પછી વેદભાષા કે સંસ્કૃત, પ્રાકૃત વગેરેની વાતજ કર્યાં રહી ? સંસ્કૃતના આધુનિક વૈયાકરણોએ આ બાબત અનેક સ્થળે વિસ્તારથી પ્રતિપાદન કરી છે. આ બાબત સિદ્ધ છે, તેની સિદ્ધિ કરવાની હવે જરૂર નથી. છતાં લગભગ ૫૦ થી વધારે પ્રમાણો (જેમાંના ઘણાં પ્રમાણભાસો છે તે) આપવામાં આમુખનો મોટો ભાગ રોકાઈ ગયો છે. ખીણું, શબ્દસ્વરૂપના મથાળા નીચે લેખકે સાંખ્ય, વૈયાકરણ, જૈન જેવા હજારો વર્ષના જૂના મતોજ ટાંકી (પૃ. ૪-૮) સંતોષ માન્યો છે. આધુનિક ઉચ્ચારશાસ્ત્ર (phonetics)માં પ્રયોગાત્મક તેમજ અન્ય એટલા બધા વધારા થયા છે કે કોઈ સાચો ભાષાશાસ્ત્રી તેને અવગણી શકે નહીં. સંસ્કૃત વૈયાકરણોનાં વિધાનો હવે ગુજરાતી ભાષા માટે ખાસ ઉપયોગી રહ્યાં નથી. પ્રાકૃતોના ઉદ્ભવ, વિકાસ અને વિસ્તાર પરવેપણ, જર્મન અને ફ્રેન્ચ ગ્રન્થો બાદ કરીએ તો પણ, ગ્રીઅર્સન, ચેટરજી, હર્નલે, જેકોબી, વગેરેએ અંગ્રેજી ગ્રન્થોમાં પણ એટલી બધી માહિતિ ભરી છે કે જો તેનો ઉપયોગ પૂર્ણરૂપે કરવામાં આવ્યો હોત તો તે તે પ્રાકૃત, અપભ્રંશો વિશે આ ગ્રન્થમાં આધુનિક ભાષાશાસ્ત્રીઓના મતો સાથે પ્રતિવાદ કર્યા શિવાય જ, છતાં તેમનાં મનત્યોથી જૂદાં પડતાં, જે વિધાનો રજૂ થયાં છે તે કદાચ ન થવા પામત. વળી લેખક મહાશયે ભાષાશાસ્ત્રના પાયારૂપ ગણાતા કેટલાક સિદ્ધાન્તોને સ્થળે સ્થળે અવગણ્યા છે, ખસ્તુત ગ્રન્થમાંથી ચૂંટેલ નીચેનાં એક બે વાક્યો આ બાબત પૂરવાર કરવા બસ છે. “ભાષામાં થએલા બધા વિકારો પ્રાકૃતમાં થઈ તેજ આવે એવો કોઈ એકાન્ત નિયમ નથી; કેટલાક એમ આવે, અને કેટલાકનો સીધો સંબંધ સંસ્કૃતમાં પણ હોય” (પૃ. ૨૭૦). “વાક્યનાં બન્ને વિશેષો કર્મ છે, માટે દ્વિતીયાન્ત છે, છતાં તેનાં વિશેષણો પ્રથમાન્ત છે” (પૃ. ૨૯૨). આમ અનેકાન્તવાદ દષ્ટિગોચર થાય છે.

વ્યુત્પત્તિમાં તો કલ્પનાનાં ઉડ્ડયન નિરંકુશ છે. ઉડતા પંખીના ટોળામાં બંદૂકને આંધળૂકીએ ભડાકે પણ એક બે પક્ષી મરેજ, ધાયલ થાયજ, એમ કલ્પના બળે કરેલ વ્યુત્પત્તિઓમાંથી કેટલીક સાચી પડી છે, કેટલીક સૂચક નીવડી છે, અને બાકીની ઉપેક્ષ્ય રહે છે. ઉદા. કાકીઆવાડી સર્વનામ ‘ઈ’ સીધું વેદમાંથી, ‘મુખ્યચંદ્ર ન હોય ?’ એ વાક્યમાંનો ‘ન’ વેદકાલીન ઉપમાર્થીય ન માંથી, ગુજરાતી પ્રત્યય ‘આઈ’ વૈદિક-તાતિમાંથી, ગુજરાતી નામયોગી ‘નો’ વૈદિક ઇન્ પ્રત્યયમાંથી લાવવાં, તથા કાકી, ‘ઠીધું’ની વ્યુત્પત્તિ કધિદકમ્, કધિઅજં, કિધિઅજં, કીધરં, કીધું (પૃ. ૧૯૦ નોટ ૧૯૪) એ સરણિએ કરવી, ‘પેટે’ શબ્દને પ્રતિમાંથી લાવવા માટે ટેક આવેસ્તિક ભાષાના પદ્ધતિ એવા ઉચ્ચારણું આલંબન કરવું, એ તદ્દન અસ્થાને છે, તેમાં તો હેમચંદ્રના સ્વરાણાં સ્વરા: વાળા સૂત્રથી પણ આગળ વધી અક્ષરાણાં અક્ષર: જેવું સૂત્ર સ્વીકારવાનો ઘાટ બની બાય છે. કેટલીક વ્યુત્પત્તિઓ, ઉદા. પાખર (પૃ. ૩૨૧), કડવું (પૃ. ૩૪૪), જેવી સૂચક છે, અને કેટલીક, ઉદા. ‘ફાગ’ (પૃ. ૪૧૭, વહેલો વિકલ્પ), ગાલમસૂરિયું (પૃ. ૪૨૨) યથાર્થ છે.

ધાર્મિક બાબતોનો સ્પર્શ કરી લેખક-મહાશયની કે કોઈની પણ લાગણી દુઃખાવવાનો આહિ હેતુ ન હોવાથી તેને લગતી ચર્ચા મુલતવી રાખી માત્ર સિદ્ધાન્ત તરીકે નીચેની બાબતો સાહિત્ય અને ભાષાના ઇતિહાસના સત્ય માટે રજૂ કરવામાં આવે છે, ઉદાપોહ કરવાની જરૂર નથી.

હેમચંદ્રના અપભ્રંશ વ્યાકરણમાં વર્ણવેલ અપભ્રંશ તથા તેના ઉદાહરણ તરીકે આપેલ સાહિત્ય તેમજ દ્વાચત્રયકાવ્યમાં કે પિંગળમાં હેમચંદ્રે લખેલ ભાષાને કોઈ પણ અર્થમાં ગુજરાતી ભાષા કહી શકાય નહીં; જુઓ

જેકબી, અને ખાસ કરીને પીશલનું હૈમવ્યાકરણ. માટીના પીંડામાં ધડો (પૃ. ૧૮૬-૭) સત્કાર્યવાદના હિસાબે રહ્યો છે તેમ અપભ્રંશમાં ગુજરાતી બીજરૂપે રહેલ હોય તો પણ પિંડ બ્યાં સુધી પિંડરૂપે જ હોય ત્યાં સુધી તેને ધડો ન કહેવાય, પણ ધડાનું રૂપ ધારણ કરવા માટે ત્યારથીજ ધડો કહેવાય, કારણ કે પિંડમાંથી તો ધડાની પેઠે કુંડું, કથરોટ વગેરે વાસણો પણ બનવાનો સંભવ એક સરખો છેજ. એવી રીતે અપભ્રંશમાંથી હિન્દી, પંજાબી, મારવાડી, ગુજરાતી માળવી વગેરે ભાષાઓ ઉદ્ભવાનો બ્યાં સુધી સંભવ છે ત્યાં સુધી તેને ગુજરાતી નામ શી રીતે આપાય ? બ્યારે તેમાંથી ગુજરાતીની વિશિષ્ટતાઓવાળી ભાષા બનતી દેખાય ત્યારેજ તેને ગુજરાતી નામ આપવાની શરૂઆત થાય, હથ્થુ, કમ્મુ, વગેરે શબ્દો ગુજરાતી છે, હિન્દી, મારવાડી નથી એમ કાઈ કહી શકશે ? આ કારણથી અપભ્રંશ એ ગુજરાતી નથી, માટે અપભ્રંશના વ્યાકરણ લખનારને ગુજરાતી ભાષાના પાણિનિની ઉપમા અસ્થાને ગણાય.

એજ પ્રમાણે ઉદાહરણોમાંનાં કાઈ કાંચે હેમચંદ્રે રચ્યાં હોય તો પણ તે ગુજરાતીનાં ન હોવાને કારણે, અને ગુજરાતીનાં ગણીએ તો પણ તેઓ તે ભાષામાં સૌથી પહેલવહેલાં લખાએલ ન હોવાને કારણે હેમચંદ્રને વાદ્મીકિની ઉપમા સંગત ન હોય. હેમચંદ્ર પહેલાં પણ સેંકડો વર્ષો પૂર્વે એ ઉદાહરણો જેવું સાહિત્ય હસ્તિમાં હતું એમ એ ઉદાહરણોજ પૂરવાર કરે છે, માટે હેમચંદ્રે તેની પહેલ નથી કરી એ સિદ્ધ થાય છે. ગુજરાતીના વાદ્મીકિપણનો મુગટ તો હજી, તેના પહેલાં બીજા કવિઓ થઈ ગયા છે એમ નક્કી થયું છે તો પણ, અનેક કારણોને લીધે, કવિ નરસિંહના મસ્તકેજ બીરાજે છે. ત્યાંથી તે ડોલી પડતો હોય એવું એકે ચિહ્ન હજી તો જણાતું નથી.

બીજી, વૈદિક ભાષાને આદિમ પ્રાકૃત કહેવી એ માટે કાઈ પ્રમાણ નથી. ખરી રીતે વેદભાષા પણ સાહિત્યિક ભાષાજ છે, લોકભાષા નહીં, તે વખતે પણ ભાષાનો પ્રવાહ એકધારે હોયજ નહીં. શિષ્ટની અને અશિષ્ટની એમ ભેદ તો કાયમ રહેવાનાજ. વળી વેદોમાં કંઈ એક કાળની કે એક સ્થળની ભાષા સંગ્રહેલ નથી, એમાં તો સેંકડો વર્ષના અંતરવાળી ભાષાઓનો સમાસ છે, વળી સંસ્કૃત ભાષા બીજી ભાષાઓની પેઠે બોલાતી જીવંત ભાષા હતી એમાં વિવાદને સ્થાનજ ક્યાં છે ? તેનાં પ્રમાણો મહાભાષ્યમાં ક્યાં થોડાં છે ? થોડાં ડો. ભાંડારકરે પોતાના ભાષણોમાં ઉદ્ધૃત પણ કરેલ છે, પણ એટલું ખરૂં કે તે શિષ્ટ વર્ગમાં બોલાતી, અત્યારે જેમ શિષ્ટ વર્ગોમાં શિષ્ટ ગુજરાતી અને પ્રાકૃત વર્ગોમાં પ્રાકૃત ગુજરાતી બોલાય છે તેમ. અમુક સ્થળની શિષ્ટભાષામાંથી અમુક પ્રયોગો ચાલ્યા જાય અને ત્યાંની કે અન્ય સ્થળની અશિષ્ટ ભાષામાં તે સચવાઈ રહે એ કંઈ નવીન વાત નથી. યૂરોપની તેમજ આપણી ધણી ભાષાઓમાં તેમ બન્યું છે. માટે વૈદિક બધા પ્રયોગો સંસ્કૃતમાં કેમ નથી અને તેમાંના કેટલાક પ્રાકૃતમાં શા માટે છે એ દલીલ વ્યર્થ છે.

બીજી, ભાષા તરીકે વ્યવસ્થિત થએલ અપભ્રંશને પણ પાંચમા સૈકાથી ઉપર લઈ જવું એ સાહસ ખેડા જેવું છે, પછી વેદકાળની વાત તો ક્યાંજ રહી ? અપભ્રંશ ભાષા માત્ર સાહિત્યિક ભાષા છે, તે કદી બોલાતીજ ન હતી એવો મત પણ એક છે જ એ ભૂલાવું ન જોઈએ. હેમચંદ્રવાળા અપભ્રંશમાંથી ગુજરાતીને અવતારીએ, પણ સર્વાશે નહીં.

અપભ્રંશથી સેળમેળ હોવા છતાં જૂની ગુજરાતીના જૂનામાં જૂના નમૂના જંજુસ્વામી રાસ (રચ્યા સંવત ૧૨૬૬, નકલ સંવત ખખર નથી) તથા દેવસૂરિનું મુનિચંદ્રસ્તવન (રચ્યા સંવત ૧૧૭૪ લગભગ, નકલ સંવત ખખર નથી) છે. પરંતુ જો હાથપ્રતો ત્યારપછીની સાલની હોય અથવા સાલ વિનાનીજ હોય તો તેમને તે તે સૈકાની ભાષાના પ્રતિનિધિ તરીકે ન ગણાય. તો પછી જૂનામાં જૂનો નમૂનો સંવત ૧૩૩૦ માં લખેલ આરાધનાના તાડપત્રનોજ સ્વીકારવો પડે, એટલે ગુજરાતી ભાષાની ઉત્પત્તિ લગભગ ઈ. સ. ૧૦૦૦ સુધી જવા જાય છે અને એ હિસાબે હેમચંદ્રની માતૃભાષા ગુજરાતી હોય એ સંભવ છે તો પણ તેમનું વર્ણવેલ અપભ્રંશ એ તો તે વખતની સાહિત્યિક ભાષા જ, તળપદી નહીં.

આ ગ્રંથ જો કે મુંબઈ યુનિવર્સિટીના ઉપક્રમે પ્રસિદ્ધ થયો છે તો પણ ભાષાશાસ્ત્રનો અભ્યાસ શરૂ કરતા વિદ્યાર્થીઓ માટે તેમજ સામાન્ય જનતા માટે એ તેની, કેટલીક અક્ષમ્ય ઉણપો લીધે, લલામણ કરી શકતા નથી એ દિલગિરિની વાત છે. રૂઢ ભાષાભ્યાસીઓ તેને ભલે વાંચે.

ભારતીય ચિત્રકલાની પરિભાષા

કનૈયાલાલ ભાઈશંકર દવે

પુરોવચન

કલા એટલે ભાવનાનો શૂદ્ધ સંકેત. માનવ હૃદયમાં જ્યારે જ્યારે ભાવનાઓનો અગમ્યનાદ જગત થયો, ત્યારે ત્યારે તે ઊર્મિઓ નૃત્ય, શિલ્પ, સંગિત, કે ચિત્રદ્વારા અવતાર પામી, જગત સમક્ષ કલા તરીકે વિખ્યાત થઈ. ત્યાર બાદ તેમાં અનુકૃતિનાં પ્રતિબિંબો પડતાં, તેનો ઉત્તરોત્તર વિકાસ થયો. જગતનો આદિકલાકાર ઈશ્વર હોઈ, તેની વિરાટ શક્તિ આગળ, માનવકલાકાર તુચ્છ અને વામણા લાગે છે. જે માનવ હૃદયે ઈશ્વરીકલાનું આર્પદર્શન કર્યું અને અનુભવ્યું, તેને જગત સમક્ષ સુંદર રીતે તેની પિછાન આપવાથી, સમાજે તેને બહુમાન આપી કલાકાર તરીકે અભિવંદ્યો. અર્થાત્ કલાકોવિદ્ તરીકે માન્યો. કલાની સામાન્ય વ્યાખ્યા એ છે કે “જેના વડે અંતઃકરણ પુલકિત બને, જે હૃદયને આનંદ આપે, અને જેમાંથી સદાકાળ સૌન્દર્ય નિતરતું રહે, તેજ સાચી કલા.” કલાનું હાર્દ સમજ્યા સિવાય તેમાં રહેલો પરમાનંદ પ્રાપ્ત થઈ શકતો નથી. પ્રભૂએ કલાને સમસ્ત સંસારમાં ભરી દીધી છે. ઈશ્વરપ્રણિત એવી એક પણ વસ્તુ નથી, જેમાં કલાનાં સાચાં તત્વો છૂપાયાં ન હોય. પરંતુ તેને પિછાનવાની અદ્વીતીય કલા જેને આવડે છે, તેનેજ તેમાંના દીવ્ય તત્વો સમજાય છે. કલાના વિવિધ ભાગોમાં લલિત કલાઓનું સ્થાન મોખરે છે. તેમાંથી સ્થાપત્ય, શિલ્પ, કાવ્ય, નૃત્ય, અભિનય, સંગિત, અને ચિત્ર વગેરે મુખ્ય છે. આ નિબંધમાં ચિત્રકલાની સામાન્ય પિછાન અને રજૂ કરવાનો પ્રયત્ન કર્યો છે.

સાહિત્ય

દરેક વિદ્યા અને કલાનું શાસ્ત્ર, યાને ઇતિહાસ તથા બંધારણ હોય છે. કારણ તે સિવાય તેનું તાત્વિક રહસ્ય સમજવું મુશ્કેલ બને છે. ભારતીય સર્વ વિદ્યાકલાનાં શાસ્ત્રો, આપણા પ્રકાંડ જ્ઞાનવેત્તા મહર્ષિઓએ રચ્યાં છે. આ બધા શાસ્ત્રોમાં કેવળ તત્વજ્ઞાન, નીતી, ધર્મ, અને આચારનીજ નોંધો નથી, પણ તેમાં ભારતની સર્વશ્રેષ્ઠ વિદ્યાકલાની નોંધો આપવામાં આવી છે. અર્થાત્ આપણા મહર્ષિઓએ વિદ્યા સાથે કલાને પણ અપનાવી હતી એમ સ્પષ્ટ જણાય છે. દરેકે દરેક વિદ્યા અને કલાનું બંધારણ હોવું જોઈએ, અને તદ્દનુસાર જે તેનો વિકાસ સાધવો એ તેનું પરમધ્યેય હતું. તેથીજ તે મહર્ષિઓએ દરેક વિદ્યા અને કલાનો તાત્વિક અભ્યાસ કરી, તેનાં વ્યવસ્થિત બંધારણરૂપ શાસ્ત્રો આપણી સમક્ષ રજૂ કર્યાં છે. વિષ્ણુધર્મોત્તરપુરાણમાં સ્વતંત્ર ચિત્રસૂત્ર, આઠ અધ્યાયોમાં આપવામાં આવ્યું છે.^૧ જ્યારે વિદ્યાવિલાસિ રાજેન્દ્ર ભોજદેવે સમરાંગણ-સૂત્રધારમાં, શિલ્પકલાની સાથે ચિત્રકલાનો પણ આછો ઘેરો પરિચય રજૂ કર્યો છે.^૨ તેવીજ રીતે ચૌલુક્ય મહારાજ સોમેશ્વર રચિત માનસોદ્ધાસ, યાને અભિલષિતાર્થચિંતામણીમાં, ચિત્રકલા માટે ઠીક ઠીક નોંધો રજૂ કરી છે.^૩ કામશાસ્ત્રના કુટુંબીમત્માં, ચિત્રસૂત્ર આપતાં કેટલાક અધ્યાયો રોક્યા છે. આ સિવાય ચિત્ર-શાસ્ત્ર માટે “ચિત્રકર્મ શિલ્પશાસ્ત્ર,” ચિત્રપદ્ધતિ, અને ચિત્ર લક્ષણ વ. સ્વતંત્ર ગ્રંથો હોવાનું પણ જાણવા મળે છે. આ ઉપરથી એટલું તો સ્પષ્ટ જણાય છે કે, ભારતમાં ચિત્રકલાનો પ્રચાર, શાસ્ત્રીયપદ્ધતિએ પ્રાચીન કાળથી ઉતરી આવ્યો હોઈ, ઉત્તરોત્તર વિકાસ પામ્યો હતો. તેટલુંજ નહીં પણ અન્ય દેશોના મુકાબલે, તેમાં કેટલીક ઉત્કૃષ્ટતા અને વિશિષ્ટતાઓ પણ દાખલ થઈ હતી. ચિત્રકલાની સાચી પિછાન, કેવળ તેના સાહિત્ય, અને વિવેચનો ઉપરથી પ્રાપ્ત થઈ શકતી નથી. તે માટે તો સિદ્ધ હસ્ત કલાકારની પાસે દિક્ષા લઈ, વર્ણસિદ્ધિ ઉઠી સાધના કરવામાં આવે, તોજ તેમાં કેટલીક સિદ્ધિ મેળવી શકાય તેમ છે.

૧ વિષ્ણુધર્મોત્તર પુરાણ ખંડ. ૩, અ. ૩૫ થી ૪૩.

૨ સમરાંગણસૂત્રધાર અ. ૭૧ થી ૭૫.

૩ માનસોદ્ધાસ વિંશતી. ૩, શ્લોક ૧૩૦ થી ૧૮૫.

ચિત્રકલા

લલિતકલાઓ આનંદદાયક હોવાથી, સમાજમાં લોકપ્રિય બની, તેનો પ્રચાર વધુ ફેલાયો હતો એમ સામાન્ય દ્રષ્ટિએ માનીયે, પણ દરેક કલાના સૂક્ષ્મ આત્મતત્વને ને વિચારિશું તો, જરૂર જણાશે કે કલાએ માનવ શુદ્ધિ વૈભવનું સાચું આત્મદર્શન છે. આવી લલિતકલાઓમાં ચિત્રનું સ્થાન મોખરે છે. પુરાણની ભાષામાં કહીયે તો, તે વિવિધકલાઓમાં સર્વશ્રેષ્ઠ હોઈ, ધર્માર્થકામ મોક્ષપ્રદ અને માંગલિક છે. પર્વતોમાં જન્મ મેરૂ, પક્ષિઓમાં ગરૂડ, અને મનુષ્યોમાં રાજા મુખ્ય છે, તેમ સર્વ કલાઓમાં ચિત્રનું સ્થાન મોખરે છે.^૪ સમરાંગણ સૂત્રધારનો કર્તા ચિત્રકલાને શિલ્પનું પ્રધાન અંગ માની, તેને શિલ્પનું મુખ કહ્યું છે.^૫ અર્થાત્ ચિત્રકલા સર્વ કામદાયો પૂર્ણ કરનારી હોઈ, મોક્ષપર્યંત લઈ જાય છે. આપને અકબરીમાં અશુભક્રાંતિ, આ સત્યને સ્વીકારતાં ચિત્રકલાને ધર્મપ્રાપ્તિ યાને મુક્તિનું સાધન માન્યું છે. તેમાં જોટલી ઉત્કૃષ્ટતા, તેટલીજ તન્મયતા. અને તે તન્મયતામાંથી મનુષ્યને પ્રજ્ઞાનો આત્મસાક્ષાત્કાર થાય છે. આવી પવિત્ર, અને અપૂર્વ ચિત્રકલાની સિદ્ધિ, દરેકને સરખીરીતે સુલભ થતી નથી. એ તો તેના અધિકારીજ ભોક્તા બની શકે છે.

સર્જક અને સર્જનકાલ

ચિત્રકલાની શરૂઆત, યાને પ્રારંભિકકાળ ક્યારથી શરૂ થયો, તે માટેની સીલસીલાઅંધ તવારીખ આપણી પાસે નથી. પુરાણકારો પુરાણની લાક્ષણિક પદ્ધતિયે, દરેક દરેક વિદ્વાકલાઓ ક્યારે, અને કેવી રીતે પ્રાદુર્ભાવ પામી, તેની આખ્યાયિકાઓ રચતાં તે બધી બ્રહ્મા, વિષ્ણુ, મહેશ અગર અન્ય દેવતાઓ દ્વારા પ્રાદુર્ભાવ પામી હોવાના ઉલ્લેખો આપ્યા છે. તે પ્રમાણે ચિત્રશાસ્ત્ર પણ ભગવાન વિષ્ણુદ્વારા અવતાર પામ્યું હોવાનું જણાવતાં તોંધ્યું છે કે, “એક વખત નારાયણે દેવસ્ત્રીઓને મુઝ પમાડવા, આંખાના રસવડે પૃથ્વી ઉપર એક સ્ત્રીનું આલેખન કર્યું. તેમાંથી સ્વરૂપવાન અપ્સરા (ઉર્વશી) ઉત્પન્ન થઈ, જેને જોઈ દેવસ્ત્રીઓ શરમાઈ ચાલી ગઈ.”^૬ આમ ચિત્રની શરૂઆત ભગવાન નારાયણથી થઈ, અને વિશ્વકર્માયે તે શાસ્ત્રને ગ્રહણ કર્યું. આમાંથી ઐતિહાસિક દ્રષ્ટિએ કંઈ તત્વ નીકળતું નથી. કારણ સકલ બ્રહ્માંડના આદિ ચિત્રક નારાયણજ ગણાય છે, તેમને ચિત્રસંપ્રદાયના પ્રવર્તક માનીયે તો અસ્થાને નહિ ગણાય. સાથે સાથે પુરાણકાર ચિત્રસૂત્રની સર્જક ઉર્વશી હોવાનું તોંધે છે.^૭ આથી અનુમાન બાય છે કે ચિત્રકલાનો સંપ્રદાય ઉર્વશીથી કદાચ પ્રચારમાં આવ્યો હોય ? ઐતિહાસિક દ્રષ્ટિયે બૌદ્ધોના ત્રિપિટકો અને જાતકોમાંથી ચિત્ર-સંબંધી ઉલ્લેખો મળે છે. તેવીજ રીતે પુરાણોમાં પણ તેવાં વર્ણનો સંગ્રહાયાં હોવાનું, ચિત્રલેખાયે બાણાસુરની

૪ કલાનાં પ્રવરં ચિત્રં ધર્મકામાર્થમોક્ષદમ્ ।

માંગલ્યં પ્રથમં ચૈતદ્ ગૃહેયત્ર પ્રતિષ્ઠિતમ્ ॥ ૩૮ ॥

યથા સુમેરુ પ્રવરો નગાનાં, યથાજ્ઞાનાં ગરુડઃ પ્રધાનઃ ।

યથા નરાણાં પ્રવરઃ ક્ષિતીશઃ તથા કલાનાં હ્રિચિત્રકલ્પઃ ॥ ૩૯ ॥ વિષ્ણુધર્મોત્તર સ્વં. ૩, અ. ૪૩.

૫ ચિત્રં હી સર્વં શિલ્પાનાં મુખં લોકસ્ય ચ પ્રિયમ્ ॥ ૧ ॥ સમરાંગણસૂત્ર. અ. ૭૧.

૬ નારાયણેન મુનિના લોકાનાં હિતકામ્યયા ।

પ્રાપ્તાનાં વંચનાર્થાય દેવસ્ત્રીણાં મહામુનિઃ ॥ ૨ ॥

સહકાર રસં ગૃહ્ય ઉર્વ્યાં ચક્રેવસ્ત્રીયમ્ ।

ચિત્રેણ સા તતો જાતા રુપયુક્તાવરાપ્સરાઃ ॥ ૩ ॥

યાં દ્રષ્ટ્વા ત્રિભીતાઃ સર્વા જગમુસ્તા દેવયોષિતઃ ।

એવં મહામુનિઃ કૃત્વા ચિત્રં લક્ષણ સંયુતમ્ ॥ ૪ ॥ વિષ્ણુધર્મો. સ્વં. ૩, અ. ૩૫.

૭ અતઃ પરં પ્રવક્ષ્યામિ ચિત્રસૂત્રં તવાનય ।

ઉર્વશીં સુજતઃ પૂર્વે ચિત્રસૂત્રં તૃપાત્મજા ॥ વિષ્ણુધર્મો. સ્વં. ૩, અ. ૪૫.

પુત્રી ઉપાને ચિતરી આપેલ ચિત્રોની હકીકત ઉપરથી ફલિત થાય છે. પૌરાણિક રીતે ચિત્રકલા પુરાણકાળ જેટલી પ્રાચીન છે, જ્યારે ઐતિહાસિક દ્રષ્ટિએ ચિત્રસંપ્રદાય ઈ. સ. પૂર્વેથી પ્રચારમાં આવ્યો હોવાનું જણાય છે.

અંગપ્રત્યંગો

વાત્સ્યાયન કામસૂત્ર ઉપર જયમંગલાનો ટીકાકાર યશોધર ચિત્રકલાનું વિવરણ આપતાં ચિત્રના રૂપભેદ, પ્રમાણ, ભાવ, લાવણ્યયોજના, સાદૃશ્ય, અને વર્ણિકાલંગ એમ છ મુખ્ય ભેદો ગણાવે છે.^૮ આમાં ચિત્રનું પ્રમાણ, રસ, ભાવ, રંગ અને સૌન્દર્યનો સમાવેશ થાય છે. રૂપભેદ-દરેક પ્રકારની આકૃતિઓ તથા તેની વિશિષ્ટતાઓનું જ્ઞાન અને પરિક્ષણ.

પ્રમાણ—દેવ, મનુષ્ય, રાજ, યુવતીઓ, પ્રાણીઓ, વ. નાં ચિત્રો માટે જુદાં જુદાં પ્રમાણો, તેની ઉંચાઈ પહોળાઈ અને તદ્દનુસાર તેનાં અંગ પ્રત્યંગોનું વિશિષ્ટજ્ઞાન.

ભાવ—ચિત્રકલાનું ઉત્કૃષ્ટ અંગ તે ભાવ, ભારતીય ચિત્રકલામાં ભાવ નિદર્શન એ પ્રધાન વિશિષ્ટતા છે. ચિત્રને અનુરૂપ તેમાં ભાવ વ્યંજના રજુ કરવામાં આવે તોજ તે સાચું ચિત્ર મનાય. અર્થાત્ ચિત્રના પ્રથમ દર્શનેજ તેમાંનાં ભાવોનું જ્ઞાન થાય.

લાવણ્ય સંયોજન—ભાવની સાથે ચિત્ર આકર્ષક અને સુંદર પણ હોવું જોઈએ. તેથી ચિત્ર નિરસ અને તત્વહીન નહીં લાગતાં મનને આનંદ આપે છે. આવા ઉદ્ભવ લાવવાની અજ્ય શક્તિ, સિદ્ધહસ્ત કલાકારોજ હસ્તગત કરી શકે છે.

સાદૃશ્યતા—કુદરતની આબેહુલ્ય નકલ જેમાં ઉતારવામાં આવી હોય, પછી તે કાદપનીક હોય, કે સત્ય, પણ જોનારની દૃષ્ટિમાં કુદરતી સત્યનો ભાસ કરાવે તેજ સાચી સાદૃશ્યતા.

વર્ણિકાલંગ—રંગ અને પીંછીનો યથોચિત ઉપયોગ. રંગ અને શલ્કકાનો જરૂર પુરતો વિધિવત્ પ્રયોગ.

ચિત્રકલાની અપૂર્વ સિદ્ધિ પ્રાપ્ત કરવા માટે આટલી મુખ્ય બાબતો છે. ચિત્રષડંગ માટે અર્થીદ્ર-નાથ ટાગોરે, મૉડર્નરીવ્યુમાં વિસ્તારથી પ્રમાણો, અને અનુમાનો સાથે ઠીકઠીક વિવેચન આપેલું છે.

પ્રકાર

ચિત્રકલાના મુખ્ય અંગો વિચાર્યા પછી તેના પ્રકારો તરફ દૃષ્ટિ નાખીશું. ચિત્રસૂત્ર સત્ય, વૈશ્ણિક, નાગર, અને મિશ્ર એવા ચાર પ્રકારો બતાવે છે.^૯ જેમાં સકલલોક (સંસાર)ની સર્વ વસ્તુઓનું સાદૃશ્ય ચિત્રણ કર્યું હોય તે સાદૃશ્ય યાને સત્ય. (દર્પણમાં પડતા પ્રતિબિંબ જેવું)

ચોતરફથી સંપૂર્ણ જોઈ શકાય તેવું, દીર્ઘકે પ્રમાણુવગરનું ન હોય તે વૈશ્ણિક.

સર્વાંગે દૃઢોપચિત, વર્તુલ, અને સ્વલ્પપુષ્પાભરણોથી અલંકૃત હોય તે નાગર.

ઉપર જણાવેલ ત્રણેનું જેમાં મિશ્રણ હોય તે મિશ્ર.^{૧૦}

૮ રૂપભેદા પ્રમાણાનિ ભાવ લાવણ્ય યોજનમ્ ।

સાદૃશ્યં વર્ણિકાભંગં હિતિ ચિત્રષડંગકમ્ ॥ ૧૧ । વાત્સ્યાયન કામસૂત્ર જયમંગલટીકા.

૯ સત્યં ચ વૈશ્ણિકં ચૈવ નાગરં મિશ્રમેવચ ।

ચિત્રં ચતુર્વિધં પ્રોક્તં તસ્ય વક્ષ્યામિ લક્ષણમ્ ॥ ૧ ॥ વિ. ધ. સં. ૩, અ. ૪૧.

૧૦ યત્કિંચિત્ લોકસાદૃશ્યં ચિત્રં તત્સત્યમુચ્યતે ।

ચતુરસ્રં સુસંપૂર્ણં દીર્ઘં નોલ્બણાકૃતિમ્ ।

પ્રમાણં સ્થાનલંભાદ્યં વૈશ્ણિકં તન્નિગદ્યતે ॥ ૩ ॥

દ્રઢોપચિત સર્વાંગં વર્તુલં નયનોલ્બણમ્ ।

ચિત્રં તં નાગરં જ્ઞેયં સ્વલ્પમાલ્ય વિમૂષ્ણમ્ ॥ ૪ ॥

ચિત્રમિશ્રં સમાલ્યાતં સમાસાન્મનુચોત્તમ । વિ. ધ. સં. ૩, અ. ૪૧.

આ સિવાય રસચિત્ર, ધૂલિચિત્ર, અને અર્ધચિત્રના પણ પ્રકારો ગણાવવામાં આવ્યા છે.
જે ચિત્રના દર્શન માત્રથી તેમાંના ભાવ, અને રસનો ખ્યાલ આવે તે રસચિત્ર.

અમુક, દષ્ટિબિંદુ વડે ઉપજાવવામાં આવે તે “રીલીફર્ક” ચાને અર્ધચિત્ર. ભિન્ન ભિન્ન રંગો વડે અલ્પ સમય માટે રંગોળી, સાંઝી, વગેરેનાં જે ચિત્રો તૈયાર કરવામાં આવે, તેને ધૂલિચિત્ર કહેવામાં આવે છે.

આ બધા પ્રકારોમાં ફક્ત બેજ વિશિષ્ટ પ્રકારો છે. ૧ સત્યચિત્ર. ૨ રસચિત્ર. આ બંનેમાં ભાવવ્યંજના અને સાદૃશ્યતાનું સંયોજન હોઈ, કલાકારને પોતાની કલમ ઉપર અજબ કાશુ ધરાવવાનો હોય છે.^{૧૧}

સ્થાન, લક્ષણ અને તેના ભેદો

ત્રીજું વિધાન ચિત્રના સ્થાન અને પોઝીઝ માટેનું છે. ચિત્રસૂત્ર, ચિત્રલક્ષણ, અને સમરાંગણ-સૂત્રધાર ઋજુવાગત, અનુભુ, સાચીકૃત શરીર, અર્ધવિલોચન, પાર્શ્વાંગત, પરાવૃત, પૃષ્ઠાંગત, પરિવૃત, અને સમાનત એવા નવ સ્થાનો જણાવે છે.^{૧૨} જ્યારે માનસોદ્ભાસ ઋજુ, અર્ધર્જુ, સાધવિલોચન, અર્ધાક્ષી, અને ભિત્તી વ. પાંચજ હોવાનું કહે છે.^{૧૩} આમાં સંમુખ, અર્ધાભિમુખ, વ. જેમાં ફક્ત એકજ આંખ દેખાતી હોય તેવાં જુદા જુદાં સ્થાનોવાળાં ચિત્રો કેવી રીતે બનાવવાં તેની સમજ આ બધા સ્થાનો ઉપરથી મળે છે. ચિત્રસૂત્ર વ. ગ્રંથોમાં તેનાં ફીક ફીક વર્ણનો રજુ કરતાં સ્વતંત્ર અધ્યાયો રોક્યા છે. પણ વિસ્તાર ભયથી અહીં તેની ટુંક પિછાન રજુ કરવામાં આવી છે.

૧ ઋજુવાગત—સંમુખ અથવા અભિમુખ.

૨ અનુભુ—અર્ધમાં એક આંખ.

૩ સાચીકૃત શરીર—જેમાં બે આંખો એક આંખ દેખાય.

૪ અર્ધ વિલોચન—જેમાં એકજ આંખની આંખ દેખાય.

૫ પાર્શ્વાંગત—પીઠનો ભાગ દેખાય.

૬ પરાવૃત—અર્ધમાં બીજી આંખ.

૭ પૃષ્ઠાંગત—ત્રણચતુર્થાંશ ભાગ દેખાય.

૮ પરિવૃત—જેમાં બીજી આંખજ એકલી દેખાય.

૯ સમાનત—ગમે તે આંખએ નમેલો ભાગ હોય તેવું.

આ બધા સ્થાનભેદો વિવિધ પ્રકારનાં ચિત્રો, પ્રમાણસર, અને સુકોળ બનાવવા માટે સૂચવ્યાં છે. જેના અભ્યાસથી ચિત્રકાર ગમે તેવી પરિસ્થિતી અને પ્રસંગનું ચિત્ર આલેખી શકે છે.

૧૧ સાદ્રશ્યં દ્રશ્યતે યતુ દર્પણે પ્રતિબિંબવત્ ।

શૃંગારાદિ રસો યત્ર દર્શનાદેવગમ્યતે ॥ ૧ ॥ ચિત્રલક્ષણ ॥

૧૨ ઋજ્જવાગતં ભવેત્પૂર્વમનૃજુ તદનન્તરમ્ ।

સાચીકૃત શરીરં ચ ભવત્યર્ધવિલોચનમ્ ॥ ૨ ॥

તતઃ પાર્શ્વાંગતં નામ પરાવૃત્તમનન્તરમ્ ।

પૃષ્ઠાંગતમધઃ કાર્યં પરિવૃત્તં સમાનતમ્ ॥ ૩ ॥

એતાન્યનેક ભેદાનિ નવસ્થાનાનિ ભૂષિતે ।

એકૈકસ્યેહ ભવતઃ શૃણુમે નૃપલક્ષણ ॥ ૪ ॥ વિ. ધ. કં. ૩, અ. ૩૯.

૧૩ ઋજુસ્થાત્પ્રથમં સ્થાનમન્યર્ધર્જુ સંજિતમ્ ॥૧૧૯

તૃતીયં સ્થાનકં સાચી તુર્યત્વર્ધાક્ષી સંજિતમ્ ॥

પંચમં ભિત્તિકં પ્રાહુ પશ્ચાદ્ ભાગગતં ચયમ્ ॥ ૧૮૦ ॥ માનસોદ્ભાસ. વિ. ૩.

કેટલાક ચિત્ર આદર્શો

ચિત્રવિધાનમાં કેટલાક આદર્શો, ચિત્રકારે ખાસ કરીને લક્ષમાં રાખવા પડે છે. તે સિવય સાચું ચિત્ર ઉપજાવી શકાતું નથી, તેટલુંજ નહીં પણ તેમાં રૂપ, રંગ, અને ઉક્ત લક્ષણો પણ આવતાં નથી. આથીજ ચિત્રસૂત્ર, અને ચિત્રલક્ષણમાં તે માટે જણાવ્યું છે કે “દેવો, નાગો, કીર્તિરો, યક્ષો વ. નાં સ્વરૂપ સૌમ્ય, અને રાક્ષસોનાં ઉભા કેશ, તથા પહોળી આંખોવાળાં લીંણણ હોય છે. વિયોગિનીનાં વસ્ત્ર શ્વેત, મુખ ચિતાથી ઘેરાયેલું, વાળ વિખરાયેલા અને શરીર અલંકાર વગરનું બતાવવું. સેનાપતીનું શરીર લાંબું, પહોળું, ઉંચું, ભૂખઓ, સ્કંધ, અને ગ્રીવા મોટી, બ્રહ્મી ભવ્ય, તેની આકૃતિ દઢ અને ઉજ્જૃંભિત હોવી જોઈએ. સૈનિકનો વેશ લશ્કરી શસ્ત્રાસ્ત્રોથી અલંકૃત, ગાયકનર્તકનો વેશ ઉદ્ધત, અને નગર તથા ગ્રામ્યવાસીઓનો પોષાક, સ્વચ્છ તથા સારો બતાવવો, જેના ઉપરથી તેઓનો સ્વભાવ પ્રિયદર્શિ (ભલાઈવાળો) લાગે. પહેલવાનો વિશાલકાય શરીર ઉપર માટી ચોટેલી હોય તેવા ચીતરવા. જુદા જુદા દેશોના લોકો બતાવવા હોય તો, જે તેના દેશને અનુરૂપ પહેરવેશ આ લેખવો, જે ઉપરથી તે કયા દેશનો નિવાસી હશે તે સમજી શકાય. નદી અને દેવતાઓના હાથમાં પૂર્ણ કુંડ તથા તેમના નિયત વાહનારૂઢ જણાવવા. સમુદ્રના હાથમાં રત્નપાત્ર અને તેના જ્યોતિર્મંડલના સ્થાને જળ બતાવવું. દિવસના દ્રશ્યમાં આકાશ સામાન્ય રંગીત, પક્ષીઓ ઉડતાં હોય, અને સૂર્યની પ્રભાથી અનુરક્ત દર્શાવવું, જ્યારે અંધારી રાત્રીના દ્રશ્યમાં તારાઓ ઝગઝગતા આવેખવા. પરંતુ આંદની રાત વ્યક્ત કરવી હોય તો ચંદ્રની સાથે કૂલો અને કુમુદો પણ હોવાં જોઈએ. પર્વતના દ્રશ્યમાં મોટી શિલાઓ, વૃક્ષો, ધાતુઓની ખાંણો, ઝરણાં અને સર્પો વ. ચીતરવા, જ્યારે નગરના ચિત્રમાં દેવમંદિરો, રાજપ્રાસાદો, બજારો અને સુશોભિત રાજમાર્ગો અવશ્ય કરીને બતાવવા.”

ઋતુઓ માટે પણ ઠીક ઠીક સૂચનાઓ નોંધી છે. વસંતના ચિત્રમાં વૃક્ષો પુષ્પોથી અલંકૃત ભરમારોના ગુંબર, કાચલોનું ફૂલન અને જેના જીવનમાં ઉલ્લાસભર્યો છે તેવાં નરનારીયો તેમાં કલ્પવાં. શ્રિષ્ઠના ચિત્રમાં શ્રમિત મનુષ્યો, છાયામાં આરામ લેતાં મૃગ અને પક્ષીઓ, કીચડમાં ખુંચી રહેલી ભેંસો, અને સૂકાં જલાશયો ખાસ હોય છે. વર્ષાના દૃશ્યમાં જલથી પરીપૂર્ણ જમીન, ઘેદ્રધનુષ્ય, વિજળીની ચમક, અને વૃષ્ટિ થતી હોય તેવો ભાવ પ્રદર્શિત કરવામાં આવે છે. શરદના આ લેખનમાં સ્વચ્છ આકાશ, ખેતરો ધાન્યથી પરિપૂર્ણ અને જલાશયો હંસ તથા કુલોથી સુશોભિત હોય છે. હેમંતના ચિત્રદર્શનમાં પાક કિંધા પછીનાં ખુલ્લાં ખેતરો, અને દિગંતમાં સામાન્ય વાદળો વ્યક્ત કરવામાં આવે છે. શિશિરના આલેખનમાં કાગડા અને હાથીઓ હર્ષવિશવાળા, મનુષ્યોમાં શીતનું વાતાવરણ પ્રસરેલ, અને દિગંત વાદળોથી ઘેરાયેલું જણાવવામાં આવે છે. આમ પ્રત્યેક ઋતુઓમાં પોતાની વિશિષ્ટતાઓ સમાયેલી હોય છે. ચિત્રકારે પ્રકૃતિનું નિરીક્ષણ કરી સમયાનુકૂલ દરેકમાં આલેખવી જોઈએ એમ ગ્રંથકાર કહે છે.^{૧૪}

આ સિવાય ચિત્રમાં રસ, અને ભાવ સંયોજનની કેટલીક ખુખીઓ વ્યક્ત કરતાં, રસચિત્ર માટે સૂચ્યું છે કે “શૃંગારના ચિત્રમાં કાંતિ, લાવણ્ય, માધુર્ય, અને સુંદર વેશાભરણ મુખ્ય છે.” હાસ્યચિત્રમાં કાંણા, કુબ્જા, ઉંચાનીચાં અંગવાળાં મનુષ્યો, અગર અદ્ભૂત રૂપવાળાં કે વ્યર્થ ચેષ્ટાઓ પ્રદર્શિત કરતાં માનવો, પશુઓ વગેરે આલેખવામાં આવે છે. કરુણરસના ચિત્રમાં યાચના, વિયોગ, વિરહ, પોતાની પ્રીત્યવસ્તુ અગર સ્વજનનો ત્યાગ, વિકલ્પ, વિપત્તિ અને સહાનુભૂતિ પ્રદર્શિત કરવામાં આવે છે. રૌદ્રમાં કઠોરતા, તથા ક્રોધ, અને વીરરસના આલેખનમાં પ્રતિજ્ઞા, શૌર્ય, ઔદ્વિગ્ધ, તેમજ ઉત્સાહીત વાતાવરણ સર્જવામાં આવે છે. ભયાનક ચિત્રદર્શનમાં, દુષ્ટ દુર્દર્શન, ઉન્નત વ્યક્તિઓ, અને હિંસ પશુઓનું આલેખન સમુચિત ગણાય. બીભત્સ રસમાં રમશાન, તથા ફૂરભૂમિ, અને અદ્ભૂત રસના આલેખનમાં, અનેક ભાવોનું સમવાયિ સંયોજકરણ મુખ્યતઃ હોય છે. જ્યારે શાંત રસના ભાવો વ્યક્ત કરવામાં સૌમ્ય આકૃતિઓ, ધ્યાનસ્થ આસનવાળી બેઠેલ યોગીઓ, તથા તપસ્વિઓ વ. થી તેવું વાતાવરણ ઉપજાવી શકાય છે.^{૧૫} આમ

૧૪ વિષ્ણુધર્મોત્તર ખં. ૩, અ. ૪૨

૧૫ એજન , , અ. ૪૩, શ્લો. ૧ થી ૧૦

ચિત્રકલાના સર્વાંગી અભ્યાસકે આવી અનેક આખતો લક્ષમાં રાખવાની હોય છે. જેવડે તે ચિત્રમાં સજીવારો-પણ કરી, લાક્ષણિક રસનિષ્પત્તિ અને યોગ્ય ભાવદર્શન લાવી શકે છે.

આવાં વિવિધ રસ પ્રદર્શિત કરતાં ચિત્રોમાં શૃંગાર, હાસ્ય અને શાંત રસનાંજ ચિત્રોગૃહ માટે પ્રશસ્ત્ય હોવાનું સૂત્રકાર કહે છે.^{૧૬} જ્યારે બધા રસનાં ચિત્રો દેવમંદિરો, અને રાજસભામાં આલેખવાની અનુમતિ આપે છે, પરંતુ રાજઆસાદ માટે તેવાં ચિત્રો અયુક્ત હોવાનું ભારપૂર્વક નોંધે છે.^{૧૭} તેજ હકીકતની પુનરુક્તિ કરતાં જણાવ્યું છે કે યુદ્ધ, રમશાન, કશ્ણા, દુઃખાર્ત, કુત્સીત અને અમંગળ ચિત્રો, ગૃહમાં ચિતરવાં નહીં પણ રાજસભા તથા દેવમંદિરો માટે તેવો પ્રતિબંધ નથી.^{૧૮} ધરમાં આલેખવા લાયક ચિત્રોમાં નિધી, (દ્રવ્ય), વૃષભ, રાજ, વિદ્યાધર, ઋષિઓ, ગરૂડ, માંગલિક પ્રસંગો વ. મુખ્ય છે.^{૧૯}

માનવ ચિત્રો માટે શરિરનાં અંગોપાંગો, તેમનો આકાર, પ્રમાણ અને માનવ. ની અપૂર્વ હકીકત ચિત્રસૂત્રકારે વિસ્તારથી નોંધી છે. તેમાં મનુષ્યના હંસ, ભદ્ર, માલવ્ય, રૂચક અને શશક એવા પાંચ પ્રકારો જણાવી,^{૨૦} તે સર્વેની ઉંચાઈનું પ્રમાણ અને તદનુરૂપ તેનાં વિવિધ અંગોનું માન આપ્યું છે. દેવો, કીર્તિરો, રાક્ષસો, વિદ્યાધરો અને મનુષ્યો માટે પાંચ પ્રકારના પુરૂષોપૈકી, દરેક માટે કેવાં કેવાં યોગ્ય માન હોવાં જોઈએ, તેની સંપૂર્ણ સમાલોચના આપતાં, અંગોપાંગ અને અવયવોની કલ્પના માટે, જે સ્વતંત્ર અધ્યાયો ચિત્રસૂત્રકારે રોક્યા છે.^{૨૧} માનસોદ્ધાસમાં પણ ઋજુવાગતાદી નવ સ્થાનોના વર્ણન અંગે, પ્રત્યેક અંગ-પ્રત્યંગોનું માન, પ્રમાણ અને આકાર માટે વિશિષ્ટ માહિતી સંગ્રહી છે.^{૨૨} આ ઉપરથી એટલું તો સ્પષ્ટ જણાય છે કે ચિત્રકલાની સાધના માટે સાધકે તેનો ઉઠો અભ્યાસ, વિચારણા, અને કલ્પનાને વધુ કેળવવી પડે છે. અને વર્ષો સુધી તેની સતત સાધના કર્યા પછી આ પવિત્ર કલા તેના ઉપાસકને વરે છે, અર્થાત્ ક્ષણેય અને છે.

ગુણ અને દોષો

દરેક વસ્તુના ગુણદોષો વિચાર્યાં હોય તો, તેમાં મુખ્યતઃ કેવાં લક્ષણો હોવાં જોઈએ, અને કેવા દોષોથી તે નિર્મુક્ત રહેવું જોઈએ, તેના સારાસાર પરિક્ષણ અને તુલનાનો સારો એવો ખ્યાલ આવી શકે છે. આથીજ ચિત્રશાસ્ત્રના વિદ્વાન્ યોજકાયે તેના ગુણદોષોની સામાન્ય વિચારણા આપતાં, આદર્શ

૧૬ શૃંગાર હાસ્ય શાંત્યાહ્યા લેખનીયા ગૃહેષુતે ।

પરશેષા ન કર્તવ્યા કદાચિદપી કસ્યચિત્ ॥ ૧૧ ॥ વિ. ધ. સં. ૩. અ. ૪૩.

૧૭ દેવવેદમનિ કર્તવ્યા રસાઃ સર્વે નૃપાલયે ।

રાજવેદમનિ નો કાર્યા રાજાં વાસગૃહેષુતે ॥ ૧૨ ॥

સમા વેદમસુ કર્તવ્યા રાજાં સર્વે રસાગૃહે ॥ વિ. ધ. સં. ૩, ૪૩.

૧૮ વર્જયિત્વા સમાં રાજો દેવ વેદમ તથૈવચ ।

યુદ્ધસ્મશાન કરુણામૃત દુઃખાર્તે કુત્સીતાન્ ॥ ૧૪ ॥

અમંગલ્યાંશ્ચ નલિલેક્ષદાચિદપી વેદમસુ ॥ એજન અ. ૪૩.

૧૯ નિધિ શૃંગાન્નૃષાન્નાજન્નિધિહસ્તાન્નતાજ્જાન્ ।

નિધિર્વિદ્યાધરા રાજન્નૃષયોગરૂડસ્તથા ॥ ૧૫ ॥

હનુમાંશ્ચ સુમંગલ્યા પંચલોકે પ્રકીર્તિતઃ ।

લિખિતવ્યા મહારાજ ગૃહેષુ સતતં નૃણામ્ ॥ ૧૬ ॥ એજન અ. ૪૩.

૨૦ હંસો મદ્રોડય માલવ્યો રુચકઃ શશકસ્તથા ।

વિજ્ઞેયા પુરુષા પંચ તેષાં વક્ષ્યામિ લક્ષણમ્ ॥ ૮ ॥ એજન અ. ૩૫

૨૧ વિષ્ણુધર્મોત્તર પાંડ ૩, અ, ૩૬-૩૭-૩૮

૨૨ માનસોદ્ધાસ વિંશતી, ૩, અ. ૧, શ્લો. ૨૦૫ થી ૬૮૫.

ચિત્રના યોગ્ય ગુણો, અને ચિત્રકલામાં રહેલાં લયસ્થાનો સંબંધી ક્ષાલ યત્તી ધરતાં જણાવ્યું છે કે, “રેખા માધુર્ય, પ્રમાણ, સાદૃશ્ય, પાર્શ્વભૂમિ ની સમગ્રવટ, અને સજ્જવપણું એ ચિત્રનાં ઉત્કૃષ્ટ અંગો છે.”^{૨૩} જ્યારે દૌર્બલ્ય, સ્થૂલરેખા, પ્રમાણભંગ, અયોગ્ય ખિલાવટ, ભાવનાશૂન્યત્વ, અવયવોનું વિકૃત આલેખન, અને રંગોની સંકરતા, એ ચિત્રના મુખ્ય દોષો છે.^{૨૪} તેવીજ રીતે અયોગ્યસ્થાને, રસહીન, શૂન્યદ્રષ્ટિવાળું, મેલું, અને ચેતના રહીત, ચિત્ર સાચું આલેખન નથી, પણ વિકૃતરેખા દર્શનજ ગણાય છે. ^{૨૫} ઉત્કૃષ્ટ ચિત્ર તો તેજ ગણાય જે સ્થિરભૂમિમાં, સપ્રમાણ, અનિર્દિત અને અનુરૂપ હોય. ^{૨૬} તેવીજ રીતે પ્રમાણસર, શાભા-યમાન, દેશાનુરૂપ વેશયુક્ત, સુસ્તિગ્ધ, અને વિસ્પષ્ટ રેખાવાળું ચિત્ર આદર્શ ગુણોથી અલંકૃત મનાય છે. ^{૨૭}

આદર્શ ચિત્રકાર અને તેનાં લક્ષણો

જેમ ઉપાસનામાં યમનિયમો નિયત કરવામાં આવ્યા છે અને તે દ્વારાજ ઇષ્ટસિદ્ધિ પ્રાપ્ત કરવામાં આવે છે, તેવીજ રીતે દરેક કાર્યના સામાન્ય નિયમો તેના બંધારણમાંજ નિશ્ચિત કરેલા હોય છે એવા નિયમોનું પાલન, અને અભ્યાસથીજ મનુષ્ય જે તે કાર્ય માટેની યોગ્યતા મેળવી શકે છે. ચિત્રકલાની આરાધના કરવા માગતા સાધક માટે, તેવા કેટલાક નિયમો નિર્દોષ કરવામાં આવ્યા છે, જેનું ચુસ્ત રીતે પાલન કરવાથી, તેમાં ઉત્તમ રીતે પ્રગતી સાધી શકાય છે. ચિત્રકારની સામાન્ય ઓખ્યા નિરૂપતાં, રાજેન્દ્ર સોમેશ્વર દેવ કહે છે કે “પ્રગલ્ભ, ભાવિક, તજ્ઞ, સૂક્ષ્મરેખાવિશારદ, વિધિનિર્માણમાં કુશળ, પત્રલેખનનો જાણકાર, રંગપૂરવામાં ભુક્ષિમાન, અને ઉદ્યોગી ચિત્રકાર, વિવિધ ભાવો અને રસો વ્યક્ત કરતું આદર્શચિત્ર ઉપજાવી શકે છે.”^{૨૮} સમરાંગણુનો વિદ્વાન રમ્યચિત્ર ભોજદેવ, ચિત્રકારના ધર્મો અને તેનો શાસ્ત્રિય પ્રયોગ સમજાવતાં લખે છે કે, “ચિત્રકાર શ્વેતવસ્ત્રો પરિધાન કરેલ, પવિત્ર, દક્ષ, અને સ્ત્રીશૂદ્રોની અભિલાષા વગરનો હોવો જોઈએ.” વળી ચિત્રનો આરંભ રોહિણી અને ત્રણે ઉત્તર નક્ષત્રોમાં અવશ્ય કરવો, જે સાધકને શિદ્ધસિદ્ધિ આપે છે.^{૨૯} વિષ્ણુધર્મોત્તરકાર ચિત્રાનક્ષત્રમાં ચિત્રનો આરંભ કરવાનું જણાવી, તેના પૂર્વવિધાનમાં શ્વેતવસ્ત્રો ધારણ કરી, પ્રયત્નશીલ બની, બ્રાહ્મણોને અભિવંદી,

૨૩ સ્થાન પ્રમાણ મૂલમ્બો મધુરત્વં વિવેકતા ।

સાદૃશ્યં ક્ષય વૃદ્ધિશ્ચ ગુણાઘકમિદં સ્મૃતમ્ ॥ ૧૯ ॥ વિ. ધ. લં. ૩, અ. ૪૫.

૨૪ દૌર્બલ્યં સ્થૂલરેખત્વમવિમ્બત્વમેવચ ।

વર્ણાનાં સંકરશ્ચાત્ર ચિત્રે દોષાઃ પ્રાકીર્તિતઃ ॥ ૧૮ ॥ એજન

૨૫ સ્થાનહીનં ગતરસં શૂન્યદ્રષ્ટિ મલીમસમ્ ।

ચેતનારહીતંવાસ્યાત્તદશસ્તં પ્રકીર્તિતમ્ ॥ ૨૦ ॥ એજન

૨૬ સમ્યગ્વિચાર્ય નૃપતિઃ સ્વધિયા પ્રયોક્તં હ્યેતત્પ્રમાણમનુરૂપમનિર્દિતંચ ॥ સ્થાનૈરનેકકિરણૈ સ્થિરભૂમિ

મંગે કાર્યં તદેવ સુકુમારમજિહ્વારેખમ્ ॥ ૧૭ એજન. અ. ૩૭.

૨૭ સુસ્તિગ્ધ વિસ્પષ્ટ સુવર્ણરેખં વિદ્વાન્યથાદેશ વિશેષ વેષમ્ ।

પ્રમાણ શોભાભિરહીયમાનં કૃતં ભવેશ્ચિત્રમતીવ ચિત્રમ્ ॥ ૧૫ ॥ વિ. ધ. લં. ૩, અ. ૪૧.

૨૮ પ્રગલ્ભૈર્માવિકૈ સ્તજસૈઃ સૂક્ષ્મરેખા વિશારદૈઃ ।

વિધિનિર્માણ કુશલૈઃ પત્રલેખન કોવિદૈઃ ॥ ૧૩૦ ॥

વર્ણપૂરણ દક્ષૈશ્ચ વીરેણચ કૃતશ્રમૈઃ ॥

ચિત્રકૈર્લેખયેશ્ચિત્રં નાનારસ સમુદ્ભવમ્ ॥ ૧૩૧ ॥ માનસોક્તાસ અ. ૧. વિ. ૩.

૨૯ શુક્લવાસઃ શુચિર્દક્ષ સ્ત્રીશૂદ્રાનભિલાષુકઃ ।

સ્થાને કર્મારંભેતેતદ્ વિમત્તે સંવૃત્તેપિ ચ ॥ ૩૧ ॥

આરંભો દેવતાર્ચનાં રોહિણ્યાં ઉત્તરેષુ ચ ।

સાધકં વા ભવેદ્ (. . ચિત્રા) રંભોવિધિયતે ॥ ૩૨ ॥ સમરાંગણસૂત્રધાર અ. ૭૫.

સ્વસ્તિવાચન કરી, તદ્વિદિ ગુરુ વગેરેને પ્રણામી, પ્રાક્રમ્ય એસી, દેવતાનું ધ્યાન કરતાં, ચિત્રનો પ્રારંભ કરવાનો આદેશ આપે છે. ૩૦ આમ મન, વાણી અને કર્મથી પવિત્ર રહી, સુનક્ષત્રમાં ચિત્રનો પ્રારંભ કરવાથી, ચિત્રમાં વધુ ઉક્તિ, યોગ્ય લક્ષણો, અને સજીવતા આવે છે. આવાં ઉદ્કૃષ્ટ ચિત્રોજ આયુષ્ય, યશ, અને ધનધાન્યની વૃદ્ધિ કરનારાં મનાય છે. ૩૧ ચિત્રની અસર એટલી વિશાળ અને વ્યાપક હોય છે કે, સમસ્ત રાષ્ટ્ર અને રાષ્ટ્રપતિનું કલ્યાણ તેમાં સમાયેલું હોવાનું સૂચવતાં, વિષ્ણુધર્મોત્તરકાર કૃત પ્રયત્ને ઉક્તલક્ષણોપેત ચિત્ર બનાવવાનો આગ્રહ સેવે છે. ૩૨

ચિત્રકારનાં સુલક્ષણો પછી દુર્લક્ષણો માટે શાસ્ત્રકાર કહે છે કે, દુરાસન, (ખરાબ રીતે એસવું તે) દુરાનીત, (ખરાબરીતે કાર્ય કરવું), પિપાસા, (અતૃપ્તી) અને અન્ય કાર્યોમાં ચિત્તારોપણ, આ બધાં વિરૂદ્ધ લક્ષણો છે. ૩૩ આવો ચિત્રકાર સુંદર ચિત્ર ઉપજાવી શકતો નથી. અર્થાત્ તે પોતાના દુર્લક્ષણોથી સ્વચિત્રનો વિનાશક બને છે. પણ ઉક્ત નિયમોનું પાલન કરનારો, શુદ્ધિ અને અનુભવને સાથે રાખી, ચિત્રકલાનો અભ્યાસી જે ચિત્ર દોરે છે તે પ્રશસ્ત્ય બને છે. ચિત્રકની સાચી શક્તિ સામાન્ય કૃતિઓથી પરખાતી નથી, પણ ઝડપી રંગો, ભિન્નભિન્ન માનસીક વ્યથાઓ, ભાવો અને કુદરતનાં અબેહુલ સર્જન જે ચિત્રદ્વારા વ્યક્ત કરે છે તેજ સાચો ચિત્રકાર ગણાય છે. આ માટે ચિત્રસૂત્રકાર કહે છે કે “યોગ્ય ભાવો સાથે વૃદ્ધિ કે ધાયલ મનુષ્ય, મોજાંની લહેરો, અગ્નિશિખા, ધૂમ્ર, વાયુ સંચારનાં ચિન્હો, અર્થાત્ વાયુની ગતિ, જે વ્યક્ત કરી શકે તેજ સાચો ચિત્રકારવિદ છે. તેવીજ રીતે ઉંઘતા, બેસી, મરેલા, અથવા બેભાનમાં પડેલા મનુષ્યો, તે સિવાય ઉંચા નીચા ભૂપ્રદેશો જે ચિત્રકાર ઉત્તમરીતે ચિતરી તકે તેનેજ સાચો કુશળ કલાકાર કહી શકાય. ૩૪ એકંદર ચિત્રકારના મગજમાં ભાવનિર્દેશન, પરિસ્થિતિ, અને પ્રસંગો વ્યક્ત કરવાની અજબ શક્તિ સમાયેલી હોવી જોઈએ. અર્થાત્ ચિત્રવિદ્યાના શાસ્ત્રીયજ્ઞાનસાથે, કાર્યકૌશલ્ય પણ હોય તોજ તે કલામાં પ્રાણ પૂરી શકે છે. તે વસ્તુને સ્પષ્ટ કરતાં સમરાંગણકાર કહે છે કે ” એકલા શાસ્ત્રજ્ઞાનથી કર્મવિત્ કલાકાર બની શકતો નથી, પણ જેમાં તે બંનેનું જ્ઞાનસમાયેલું હોય તેજ આદર્શ ચિત્રકાર બની શકે છે. ૩૫

૩૦ ચિત્રાયોગે વિશેષેણ શ્વેતવાસા યતાત્મવાન્ ।

બ્રાહ્મણાન્ પૂજયિત્વાતુ સ્વસ્તિવાચ્ય પ્રણમ્યચ ॥ ૧૧ ॥

તદ્વિદશ્ચ યથા ન્યાયં ગુરુશ્ચ ગુરુવત્સલઃ ।

પ્રાહ્ણુલો દેવતાધ્યાયિ ચિત્રકર્મ સમાચરેત્ ॥ ૧૨ ॥ વિ. ધ. સ્વ. ૩, અ. ૪૦.

૩૧ ચિત્ર લક્ષણ સંયુક્તં પ્રશસ્તં સર્વમુચ્યતે ।

આયુષ્યં ચ યશસ્યં ચ ધનધાન્ય વિવર્ધનમ્ ॥ ૨૫ ॥ એજન અ. ૩૮

૩૨ સલક્ષણં ચિત્ર મુશન્તિ ધન્યં દેશસ્ય કતુર્વસુધાધિપસ્ય ।

તસ્માત્પ્રસયત્નેનસલક્ષણંતત્કાર્યં નરૈર્યન્નપરૈર્યથાયમ્ ॥ એજન

૩૩ દુરાસનં દુરાનીતં પિપાસા ચાન્યચિત્તતા ।

એતે ચિત્ર વિનાશસ્ય હેતવઃ પરિકીર્તિતઃ ॥ ૧૨ ॥ એજન અ. ૪૧

૩૪ શલ્યવિદ્ધં ચ વૃદ્ધં ચ યઃ કરોતિ સચિત્રવિત્ ॥ ૨૭ ॥

તરંગાગ્નિશિખા ધૂમં વૈજયન્યસ્વરાદિકમ્ ।

વાયુગત્યા લિખેદ્યસ્તુ વિજ્ઞેયોમત્તચિત્રવિત્ ॥ ૨૮ ॥

સુપ્તં ચ ચેતનાયુક્તં મૃતં ચૈતન્યં વર્જિતમ્ ।

નિમ્નોન્નત વિભાગં ચ યઃ કરોતિ સચિત્રવિત્ ॥ ૨૯ ॥ એજન અ. ૪૫

૩૫ ન વેતિ શાસ્ત્રવિત્ કર્મ ન શાસ્ત્રમપિ કર્મવિત્ ।

યો વેતિ દ્વયમપ્યેતત્ સહિચિત્રકરો વરઃ ॥ ૧૧ ॥ સમરાંગણસૂત્રધાર અ. ૧૪

રંગ અને રેખા

રંગ અને રેખા ચિત્રકલામાં મહત્વનું સ્થાન ધરાવે છે. તેના સિવાય ચિત્રમાં તાદ્રશભાવ લાવી શકાતો નથી. જેમાં જેવા રંગો કુદરતે પૂર્ણ હોય તેને અનુરૂપ વર્ણો પૂરવાનું તથા, વિવિધ ચિત્રવિધાનોમાં કુદરતીભાવ ઉદ્દીપ્ત કરવાનું શુદ્ધિગમ્ય કાર્ય, કુશલ ચિત્રકળ કરી શકે છે. અર્થાત્ કલ્પના, અને કુદરતનો જેટલો ઉંડો અભ્યાસ, તેટલીજ ચિત્રકારની મર્મજ્ઞતા, અને સાચી લાક્ષણિકતા. ઉત્કૃષ્ટ ચિત્રના સર્જન માટે રંગ અને રેખા પ્રધાન હોઈ ચિત્રસૂત્રનો કર્તા તેને ચિત્રના અલંકાર તરીકે સંબોધે છે. ૩૬ તેટલુંજ નહીં પણ રેખાદ્વારા ચિત્રનો ધ્વની સમગ્રાય છે. અર્થાત્ રેખાએ ચિત્રનું સત્સ્વરૂપ છે. ચિત્રમાંના વિવિધત્વોને દરેક મનુષ્ય પોતપોતાની ભોગ્યશક્તિ પ્રમાણે ગ્રહણ કરે છે. પરંતુ કેટલાંક એવાં તત્વો છે, જે અમુક વગેરે ખાસ કરીને પસંદ કરેલાં હોય છેજ. તે માટે સૂત્રકાર લખે છે કે “આચાર્યો (કલાકારવિદો) રેખાને, વિચક્ષણો (શુદ્ધિમાન પુરુષો) વર્તનને, સ્ત્રીઓ અલંકારોને, અને સામાન્ય મનુષ્ય વર્ણુ (રંગ)ને પ્રશંસે છે.” ૩૭ આ ઊપરથી પણ રેખાએ ચિત્રકલાનું પરમતત્વ હોઈ, ચિત્રકારવિદો તેને પ્રશંસતા હોવાનું જણાય છે.

ચિત્રાંકનમાં ભિત્તિ અર્થાત્ પાર્શ્વભૂમિનો સુંદર ખ્યાલ સમરાંગણ, ચિત્રસૂત્ર, અને માનસોદ્ધાસમાં વ્યવસ્થિત રીતે આપ્યો છે. આ ત્રણે ગ્રંથોના પ્રણેતાઓએ તે માટેનાં દ્રવ્યો, તથા તેની પ્રક્રિયાઓનો સમન્વય સાધતાં કેટલીક અનન્ય માહિતી પૂરી પાડી છે. વર્ણો માટે સૂત્રકાર શ્વેત, પીત, વિલોમ, નીલ, અને કૃષ્ણ એ પાંચ મૂળ રંગો હોવાનું કહે છે. ૩૮ જ્યારે માનસોદ્ધાસ શ્વેત, શાણ, રક્ત, લોહિત, પીત, અને કૃષ્ણની, નોંધ આપી શાણ, અને લોહિતનો રક્તમાં સમાવેશ કરતાં, ફક્ત ચારને શુદ્ધ વર્ણુ તરીકે સ્વીકારે છે. તેટલુંજ નહીં પણ સાથે સાથે દરેક વર્ણોનાં દ્રવ્યો માટે પણ ઉદ્દેષો રજૂ કરે છે. ૩૯ આ મુખ્ય વર્ણો વડે ભાવ અને કલ્પના મુજબ ચિત્રકારે, સ્વશુદ્ધિથી સૈકડો અને હજારો વર્ણો બનાવવાનું સૂચવી, ગ્રાણીયો, પક્ષીઓ, ઝાડ, પાન અને માનવ ચિત્રો વગેરે અનેક વસ્તુઓમાં જુદા જુદા રંગો પૂરવાની સમજ આપી છે. ચિત્રકલાના અભ્યાસિયે, આ બધા ગ્રંથોનો અભ્યાસ કરવાથી, કેટલીયે અનન્ય વિગતો પ્રાપ્ત થવા સંભવ છે.

લેખીની યાને પીંછી

ચિત્રકાર્ય માટે પીંછી અને તેના પ્રકારો સંબંધી કેટલીક નોંધો મળે છે. માનસોદ્ધાસનો કર્તા સ્થૂલ, મધ્ય, અને સૂક્ષ્મ એવા ત્રણ પ્રકારો ગણાવે છે. ૪૦ જ્યારે સમરાંગણકાર કૂર્ચન, હસ્તકૂર્ચન, ભાસકૂર્ચન, ચલકૂર્ચન, અને વર્તન યાને માન્યકૂર્ચન એવા પાંચ પ્રકારો બતાવે છે. ૪૧ આ પીંછીઓ વાછડાના કાનમાં ઉગેલા વાળોની બનાવવાનું માનસોદ્ધાસમાં જણાવ્યું છે. ૪૨ જ્યારે સમરાંગણકાર ગધેડાના વાળની,

૩૬ રેખા ચ વર્તના ચૈવ ભૂષણ વર્ણમેવચ ।

વિજ્ઞેયામનુજશ્રેષ્ઠ ચિત્રકર્મ સુભૂષણમ્ ॥ ૧૦ ॥ વિષ્ણુધર્મોત્તર અ. ૪૦, લં. ૩.

૩૭ રેખાં પ્રશંસંત્યાચાર્યા વર્તનાંચ વિચક્ષણાઃ । સ્ત્રિયોભૂષણમિચ્છન્તિ વર્ણાલ્ચમિતરેજના ॥ ૪૧ ॥ એબન.

૩૮ મૂલરંગાસ્મૃતાપંચશ્વેતપીતો વિલોમનઃ । કૃષ્ણો નીલશ્ચ રાજેન્દ્ર શતશોન્તરતઃસ્મૃતા ॥ ૧૬ એબન.

૩૯ શ્વેતેષુપૂરયેચ્છંત્રં શોણેષુ દરદં તથા । રક્તેષ્વલક્તકકં લોહિતૈર્ગૈરિકં તથા ॥ પીતેષુ હરિતાલં સ્યાત ક્રળ્લે કજ્જલમિષ્યતે । શુદ્ધવર્ણં હમે પ્રોક્તાશ્ચત્વારઃશ્ચિત્ર સંશયઃ ॥ ૧૫૬-૧૫૭ માનસોદ્ધાસ. વિં. ૩, એ. ૧

૪૦ લેખિની નામ સા પ્રોક્તા સાચૈવં ત્રિવિધા ભવેત્ । સ્થૂલ મધ્યા તથા સૂક્ષ્મા તથા ચિત્રં વિરચ્યતે ॥ ૧૪૩ ॥ માનસોદ્ધાસ વિં. ૩.

૪૧ કૂર્ચનં કૂર્ચકે નાથ દ્વિતીયં હસ્તકૂર્ચકમ્ । તૃતીયં ભાસ કૂર્ચાલ્યં ચતુર્થં ચલ્લ કૂર્ચનમ્ ॥ ૧૩ ॥ પંચસં વર્તનં કૂર્ચ માન્ય કૂર્ચનમિષ્યતે સમરાંગણસૂત્રધાર અ. ૭૩

૪૨ વત્સકર્ણં સમૂદ્ભૂત રોમાણ્યાદાય યત્નતઃ । તૂલિકાગ્રેન્યસેતાનિ લાક્ષાબંધન યોગ્યતઃ ॥ ૧૪૫ ॥ માનસોદ્ધાસ વિં. ૩.

નાલીકર ઉપરની ત્વચાની અને વાછરડાનાં કાનના વાળમાંથી તૈયાર કરવાનું કહે છે.^{૪૩} આ પીંછીઓના આકાર અનુક્રમે વટાંકુર (વડના અંકુર જેવો), પ્લક્ષાંકુર (પીપળાના અંકુર જેવો), પીપરના અંકુર જેવો, અને ચોર્થાનો ઉદુબરાંકુર (ઉમરાના અંકુર જેવો) હોવાનું સૂચવતાં પાંચમી માટે મૌન સેવ્યું છે.^{૪૪} આથી તે સ્થૂલસામાન્ય રંગ માટેના કુચડા જેવી હશે એવું અનુમાન છે. માનસોદ્ધાસનો કર્તા પીંછીઓના ઉપયોગ સંબંધી માહિતી રજુ કરતાં કહે છે કે “સ્થૂળથી લેપન કરવું, લેપનકાર્ય મધ્યથી કરવું, અને સૂક્ષ્મરેખાઓ સૂક્ષ્મરેખિની વડે ચિત્રવિદ્યાવિશારદે આલેખવી.”^{૪૫} તેવીજ રીતે સમરાંગણકાર પણ કહે છે કે વટાંકુર કૂચથી સ્થૂલરેખાઓ, અને પ્લક્ષાંકુર કૂચથી ન્યૂનરેખાઓ કરવી નહીં અર્થાત્ દરેક પીંછીઓ તેને યોગ્ય કાર્યોમાંજ વાપરવી. લેપનકાર્ય ઉદુબરાંકુર લેખિની વડેજ કરવું.^{૪૬} એકંદર ચિત્રકલાના વિધાયકને, જેની સહાયવગર નહીં શકેજ નહીં, તેવી લેખિનીયાને પીંછી કાર્યને અનુરૂપ, સપ્રમાણ, અને યોગ્ય દ્રવ્યોમાંથી બનાવી હોય, તેજ ચિત્રકારને તેના કલાવિધાનમાં પુરતી સફળતા આપે છે.

ચિત્રનો નાટ્ય સાથે સંબંધ

નાટ્ય અને ચિત્ર બંને શાસ્ત્રો એક બીજાનાં પૂરક અંગો છે. તેવીજ રીતે કેટલાંક વિધાનો બંનેમાં એક સરખો સહકાર સૂચવે છે. કારણ નૃત્યની અંદર જે દષ્ટિ, ભાવ, અંગોપાંગોનું નિદર્શન, અને મુદ્રાઓ તથા અભિનયો યોજવામાં આવ્યા છે, તે બધામાં મોટે ભાગે પક્ષી ચેષ્ટાઓ, અને સંસારની અનુકૃતિઓજ રજુ કરેલી છે. ચિત્રમાં પણ આ પૈકીના કેટલાકનો સમાવેશ કરવામાં આવ્યો હોવાનું ચિત્રશાસ્ત્રના વિદ્વાનો માને છે.^{૪૭} તેવીજ રીતે વયને અનુરૂપ વેશ, વેશાનુયુક્ત હલન ચલન, અને ગતીપ્રચાર, તેને અનુરૂપ ભાષણ, અને ભાષણ પ્રમાણે અભિનય એ નાટ્યનાં ઉદ્ધત લક્ષણો હોવાનું ભરત કહે છે.^{૪૮} તેવી જ રીતે ચિત્રમાં પણ વયને જાજતો વેશ, તેને અનુસરતો ભાવ, અને રસ પ્રકટ કરવા યથાયોગ્ય રંગોની જમાવટ કરવામાં આવે, તોજ તે ચિત્ર આકર્ષક અને તાદશ ભાવો વ્યક્ત કરી શકે છે. ચિત્ર અને નૃત્યના અભેદ સંબંધને લઇનેજ સૂત્રકાર કહે છે કે જેની માહિતી ચિત્રશાસ્ત્રમાં ન આપી હોય, તેવી હકીકત નૃત્ય-શાસ્ત્રમાંથી જાણી લેવી, પણ નૃત્યમાંથી જેનો ઉલ્લેખન કરવામાં આવ્યો હોય તેવાં ચિત્રો બનાવવાં નહીં.^{૪૯}

૪૩ કૂર્ચકં ધારયેદ્ ધીમાન્ વૃષભ્રવણરોમભિઃ । વલ્કલૈર્વાવિધાતવ્યઃ ચરકૈરૈરથાપિવા ॥ ૧૬ ॥

સમરાંગણ સૂ. અ. ૭૩.

૪૪ આઘોવટાંકુરાકારઃ તતોશ્વત્થાંકુરાકૃતિઃ । હ્રક્ષસૂચિનિમશ્ચાન્યસ્તુતીય કૂર્ચકો ભવેત્ ॥ ૧૮ ॥

ઉદુંબરાંકુરાકારશ્વતુર્થઃ પરિકીર્તિતઃ ॥ એજન

૪૫ સ્થૂલયા લેપનં કાર્યં તિર્યગારિતયા તથા । અંકનં મધ્યયા કુચાંદ અગ્રપાર્શ્વનિવિષ્ટયા ॥ ૧૪૩ ॥

સૂક્ષ્મયા ચ તથા રેખા સૂક્ષ્માં કુર્વીત કોવિદઃ । અગ્રેણચિત્રકોધીમાન્ ચિત્રવિદ્યાવિશારદઃ ॥ ૧૪૮ ॥

૪૬ સ્થૂલ લેખા ન કુર્વીત વટાંકુર નિભાદિતઃ । ન્યૂન લેખા ન કુર્વિત હ્રક્ષાંકુરસમેન ચ ॥ ૨૦ ॥

અશ્વત્થાંકુર રુપેણ યત્ર (વિદ્રવ્ સહીકરાત્) । ઉદુંબરાંકુરાકારો લેપ્ય કર્મણિશસ્યતે ॥ ૨૧ ॥

સમરાંગણ. અ. ૭૩

૪૭ યથા નૃત્તે તથા ચિત્રે ત્રૈલોક્યનુકૃતિઃ સ્મૃતા ।

દ્રષ્ટ્યશ્ચ તથાભાવા અંગોપાંગાનિ સર્વશઃ ॥ ૪ ॥

કરાશ્ચયે મહાનૃત્તે પૂર્વોક્તા નૃપસત્તમ ।

ત એવ ચિત્રે વિજ્ઞેયા નૃત્તં ચિત્રં પરંમતમ્ ॥ ૬ ॥ વિ. ધ. સં. ૩, અ. ૩૫

૪૮ વયોનુરુપઃ પ્રથમંતુ વેશો વેશોનુરુપશ્ચ ગતિપ્રચારઃ ।

ગતિપ્રચારાનુગતં ચ પાઠયં પાઠ્યાનુરુપોડમિનયશ્ચકાર્યઃ ॥ ભરતનાટ્યશાસ્ત્ર અ. ૧૩.

૪૯ યદત્રનોક્તં તત્રૈત્તાદિજ્ઞેયં વસુધાધિપ ।

નૃત્તેડપિનોક્તં તત્ચિત્રં નાત્ર યોજ્યં નરાધિપ ॥ ૩૭ ॥ વિ. ધ. સં. ૩, અ. ૪૫.

આ સૂચન ઉપરથી નૃત્ય અને ચિત્ર એક ખીજની સહાયક કલાઓ છે એમ સ્પષ્ટ જણાઈ આવે છે. તેવી રીતે શિલ્પકલા પણ નીકટનો સંબંધ રાખતી હોવાનું સમજાય છે, કારણ શિલાઓની અંદર ઉતરવામાં આવતી માનવ લીલાઓ, પૌરાણિક પ્રસંગો, નૃત્યના અભિનયો, મુદ્રાઓ, અને આસનો ચિત્રકલાના પુરતા અભ્યાસ સીવાય કોતરી શકાતાં નથી. અર્થાત્ પ્રત્યેક કલા એક ખીજની સાથે ધનીષ્ઠ રીતે સંકળાયેલી હોય છે.

ઉપસંહાર

ચિત્રકલાએ સંસ્કારી જીવનનું પ્રતિક છે. વાત્સ્યાયન કામસૂત્રકારે શિક્ષિત નાગરકના શિક્ષણની હકીકત આલેખનાં, દરેક નાગરિક પોતાની પાસે ચિત્ર ફલક, શલાકા, અને રંગપેટી રાખવી જોઈએ એવું સૂચન કર્યું છે. પ્રાચીનકાળમાં ચિત્રકલાનો પ્રચાર રાજકુટુંબોથી આરંભી, સામાન્ય નાગરિકો, સુધીમાં ફેલાયો હતો તેવાં અનેક પ્રમાણો પુરાણો, કાવ્યો, સંસ્કૃત નાટકો, કથાસરીતસાગર અને સંસ્કૃત સાહિત્યનાં અનેકવિધ ગ્રંથોમાંથી મળી આવે છે. ચિત્રકલા કેવળ મનોવ્યાપાર અને મનોરંજક વ્યવસાય નથી. પણ મનુષ્ય સાધી શકે તો તે દ્વારા પરમશાંતિ પ્રાપ્ત કરી શકાય તેમ છે. તે સિવાય ઉત્તમ ચિત્રો દોરવાથી, તથા ઘરમાં તેવાં સુંદર આલેખનો કરાવવાથી, અનેકવિધ ફાયદાઓ થતા હોવાનું જણાવતાં, સૂત્રકાર કહે છે કે “જ્યાં સારાં ચિત્રો હોય છે ત્યાં, શૂન્યત્વ લાગતું નથી.” તેટલું જ નહીં પણ સુચિત્ર લક્ષ્મી આપે છે, અલક્ષિમનો નાશ કરે છે, કામનાઓને સંતોષે છે, પ્રીતિ ઉત્પન્ન કરાવે છે, દુસ્વપ્નનો નાશ કરે છે, અને ગૃહદેવતાઓને પ્રસન્ન રાખે છે.^{૫૦} એકંદરે ચિત્રકલા આત્મકલ્યાણની સ્રોતક છે.

ચિત્રશાસ્ત્ર એક ગહન વિષય છે, તેનું યોગ્ય નીરૂપણ આવડા નાના નિબંધ માત્રથી સમજાવી શકાય તેમ નથી, છતાં તત્સંબંધી સામાન્ય પિછાન આ પરિભાષાદ્વારા સમજાવવાનો પ્રયત્ન કર્યો છે. આમાં કેટલાયે વિષયોને યોગ્ય ન્યાય આપવાનું બની શક્યું નથી. ચિત્રપડંગ, ભાવ, રસ, દ્રષ્ટિ વ. નો ફક્ત નામ માત્ર જ ઉલ્લેખ આપવામાં આવ્યો છે, જ્યારે માન, પ્રમાણ, અને પક્ષસૂત્રો માટે સામાન્ય ઝાંખી કરાવવાનું પણ બની શક્યું નથી. તેવીજ રીતે વિવિધ વર્ણો, તેનાં દ્રવ્યો અને તેના ઉપયોગ માટે યત્નીચીત પણ હકીકત આપી શકાઈ નથી. આમ આ પરિભાષાની અંદર કેટલાક મહત્વનાં અંગોને વિસ્તારભયના કારણે સ્પર્શ કરી શકાયો નથી. તેમ છતાં ચિત્રશાસ્ત્રસંબંધી જાણવા માગતા અભ્યાસીને પ્રાથમિક માહિતી મેળવવાનું આથી સુલભ થશે તો મારા પ્રયત્નનું સાર્થકય માનીશ.^{૫૧}

૫૦ શ્રિયમાવહતિ ક્ષિપ્રમલક્ષ્મીં ચાપકર્ષતિ ।

નિર્ણેજયતિ ચોત્કંઠાં નિરુણધ્યાગતં શુભં ॥ ૨૫ ॥

શુદ્ધાં પ્રથયતિ પ્રિતીં જનયત્યતુલમપિ ।

દુસ્વપ્ન દર્શનં હન્તિ પ્રીણાતિ ગૃહ દૈવતમ્ ॥ ૨૬ ॥

નતુશૂન્યમિવામાતી યત્ર ચિત્ર પ્રતિષ્ઠિતમ્ ॥ એજન અ. ૪૫.

૫૧ વડોદરા, પંદરમા સાહિત્ય સંમેલનમાં સ્વીકારાયેલો નિબંધ.

REVIEWS

The fortunes of primitive tribes by Dr. D. N. Mujumdar, M.A., Ph.D., (Cantab.) pages 234 with 58 illustrations published under the direction of the Superintendent, Provincial Census Operations, U.P., 1941 for the Lucknow University by the Universal Publishers Ltd., Lucknow, 1944. Price Rs. 12.

The 1941 census reports have not furnished as much ethnographic material as the previous ones and this is a source of embarrassment and disappointment to many. The continuity of the information that used to be available in the successive census reports has been broken and the material that is published now in the truncated reports does not satisfy the requirements of research. It is therefore a matter of satisfaction that an ethnographic survey has been initiated by the Superintendent, Provincial Census Operations for the United Provinces. A series of four volumes has been projected and is in progress, and the present volume under review is the first one. Dr. Mujumdar is a highly qualified anthropologist and his study of the Korwas, Tharus, Khasas and the Criminal Tribes contained in this volume, furnishes material of great scientific importance. The old method of ethnographical survey was to collect information through the local officials who often failed to secure scientific precision or the proper ethnographical back-ground. One important feature of the studies in this book is the continuous touch which the author has cultivated regarding the anthropometric measurements and somatic testing. The author thus controls the flighty imagination of a sociologist and chooses the firmer ground of the physical anthropology wherever it is possible.

The volume covers a description of four important tribes out of which the Korwas present the most primitive element in the population of the Province and represents a culture that is undergoing disorganisation and disintegration. It is a sad story though presented in an interesting form livened by the personal observations of the author. On the other hand, the Tharus have secured the stability and prosperity, built up in spite of the vicissitudes and difficulties from which the other tribes have suffered. The Tharus claim Rajput parentage on the mother's side though there is a volume of opinion in favour of their Maharashtrian origin. The Tharu women occupy a dominant position in the domestic economy and their lively habits prevent them from suffering the depression which has overtaken most of the other primitive tribes. They represent a tribe which has accepted the Hindu contact and adapted itself to the changing economic environment without undergoing the usual suffering, which is the lot of many other backward tribes.

The most remarkable part of the book is that describing Khasas or the Khasiyas who constitute the high class tribe of cis- Himalayan region who are often described as Rajputs or Brahmins. A characteristic of this tribe is the prevailing custom of polyandry. They are usually tall, handsome, fair complexioned, long headed with fine nose, hazel eyes with a sprinkling of blue, curly hair and other features well proportioned. The women are also comparatively tall, slender and graceful, of a very attractive appearance and of extremely gay disposition. "The Khasas are a

patrilocal people with patrilineal inheritance and patronymic designation. Each village stands as a social unit and is usually exogamous. The joint family system prevails. A group of brothers live together with one, two or more wives under the same roof, the brothers sharing the wives in common, without exclusive rights of cohabitation with any one wife." The polyandrous family life of the Khasas provides abundant scientific material, supported by measurements and serological data. It also reminds the reader of the polyandrous custom prevalent in the times of the Pandavas of the Mahabharat fame.

The chapter on the criminal tribes of the United Provinces has a value of its own, while the concluding one contains the personal contribution of the author, who adumbrates a new theory of social vigilance on the lines of Sir Henry Head's suggestion regarding the loss of control in case of injury to any portion of the centres of nervous system. Dr. Mujumdar's thesis is that a mixture or sudden contact of several cultures breaks down the vigilance scheme of a society and makes behaviour of individuals less precise, less coherent and less useful. It is difficult to believe in the universal application of this theory and to assume that other tribes cannot achieve social and economic adjustment as the Tharus for example have done. It is a common difficulty of all cultural contacts over the whole world, that the contact of various social groups or tribes or races or nations has led to conflicts but these conflicts are necessary for the proper evolution of a social group, which though on a different level, may not be necessarily considered to occupy a lower level. If the notions of the so-called superiority of individual groups are set aside, it should be possible to organise uplift programmes for the so-called backward tribes without upsetting their social balance. Thus though the theory of social vigilance is useful and can be utilised in planning uplift schemes, it need not frighten the social worker into inactivity or complacency.

Dr. Mujumdar deserves the congratulations for bringing out an extremely readable volume, useful for the general reader as well as for the scientific anthropologist. We have no doubt that impartial, unbiassed and scientific attitude noticed here, will be maintained in the three succeeding volumes that are coming from his pen, in the same series.

P.G.S.

The Gondwana and the Gonds (a study in Primitive Economics) by Indrajit Singh, M.A., LL.B., Ph.D., Pub. Universal Publishers Ltd., Lucknow, pp. 201 with 41 photographs.

The sudden and rapid changes, coming over the country are wiping out of recognition the ancient aboriginal tribes of India. It is a hopeful sign of the times that the universities are encouraging anthropological studies and the books based on the thesis submitted for the doctorate degrees provide excellent studies of the various tribes and it is hoped that these will be rapidly completed before the tribes undergo more complete absorption into the ordinary society. If the Naga tribes of Assam had not been lucky in getting their life so brilliantly portrayed by eminent and sympathetic authors like J. P. Mills and if this work was left to be done after the recent Japanese invasion of Assam, it would have produced an entirely different picture.

The Gonds are among the most numerous of the aboriginal population of India and are found in C. P. (22 lakhs), Bihar (2.5 lakhs), U. P. (1.21 lakhs), Central India states (2.8 lakhs). They are similar in many ways to the Bhils who also are equally if not more numerous with a total population of 40 lakhs distributed over wider areas. The culture of the Gonds in the C. P. with which the present study is mainly concerned has been affected by the cultural contacts with Maharashtra in the districts of Betul, Chhundvara, and Balaghat, and with Telugu culture in the eastern districts near the Ooriya country. Similarly the life and the language of the Bhils has been influenced by the various parts of the country as wide apart as Rajputana, Gujarat, Central Provinces and Central India. The Bhili Language provides an important problem in scientific origin of Indian languages and to which Sir Grierson donated the whole of the ninth Volume of his survey. It is unfortunate that the present book does not give sufficient justice to the linguistic side of the Gond dialects and Gond culture.

Gondwana land is a magic name by itself to students of Geology and anthropology and the present study by Dr. Singh furnishes an extremely readable and interesting account of the culture of the ancient Gonds. Dr. Singh is a specialist in functional analysis of aboriginal institutions and he has chosen to emphasise the economic side of Gond life. Yet his description of the Gotul institution is the most significant part of his book, though the chapters on economic leadership, economic activities and Gond economics will all repay careful reading.

Dr. Singh laments the lots of the Gonds who are being decimated by various kinds of disease, demoralised by litigation by subdivision of inheritance and finally deprived of their own land by the new comers. Yet he is not blinded by a policy of mechanical isolation and recognised that the new culture has brought the adoption of permanent agriculture, which with its supplementary crops, have minimised the frequency and rigours of famine and increased the food supply. He recognises however, the methods of their training should keep pace with their capacity for growth and the power of proper assimilation. The book is nicely printed, and has a useful index.

P.G.S.

Folk Tales of Mahakoshal. VERRIER ELWIN, D.Sc. (Oxon.), Oxford University Press, pp. 523+xxv, Bombay, 1944. Rs. 15.

This book is the first of a series of volumes designed by the new editors of *Man in India* to preserve, in English, specimens of the oral literature of Middle India. Mahakoshal represents the eastern part of the Central Provinces while the Western part is described as Vidarbha.

The volume is the first one to be published under the name of the distinguished author after the Blue Ribbon of Oxford University, D.Sc. was conferred on him. In respect of sound scholarship, wide reading, sympathetic treatment, critical presentation of the material collected, and above all a charming literary style, this book will always remain difficult to surpass. There are 150 beautiful and interesting stories, folk tales recorded exclusively from members of the aboriginal tribes, and collected in an atmos-

phere of confidence and friendliness, during a period of over ten years' residence in the Maikal Hills and Bastar State. Lucky indeed, are these aboriginals among whom Dr. Elwin is settled, and round whom he has collected several sincere workers, and trained assistants. Apart from the medical relief, educational help and ethnographic records, which these aboriginals of Mahakoshal have secured at Dr. Elwin's hands, they could not have obtained a more sympathetic preserver of their oral literature and their innate culture. The stories have been collected with notes about the village and the tribe of the narrator, and have been first recorded directly from Hindi or Gondi and then translated into English in Dr. Elwin's poetic words.

The volume is not merely a random collection of stories : they have been all critically examined and systematically arranged under twenty-six typical groups. The note at the end of each story, giving the "motif" and a comparative criticism in the light of similar stories in Sanskrit and European literature, should completely satisfy any critic. But the most useful parts of the book are the scholarly bibliography and the masterly introduction, which easily establish for Dr. Elwin a high place among the students of Indian folklore. No student of Indian culture, no administrator, no patriot and no one interested in planning of the village life in India can do without a thorough perusal of this book. And yet the anthropologist is the one to be benefited the most from these folktales which have been reproduced with uncomparable freshness and charm. Taking, for example the story of Singhisurva, a pardhan tale from Seoni district, it is noteworthy that the adventurous life of this supernatural giant king and the romantic marriage of his son have behind them a real tribal background for the marriage is not complete until the kingly father of the bridegroom gives a "tribal dinner that cost twenty-five thousand rupees".

The references to Western Indian folklore literature given in Bibliography are those to Dr. P. D. H. Wadia published in *Indian Antiquary*, Volumes XVI to XXIII, and a book published by Mr. G. Jethabhai at Limbdi. The omission of Mr. Meghani's books, which were reviewed in the Journal of Gujarat Research Society for April, 1940, will it is hoped be rectified in a second edition of the book. The Oxford University Press deserves highest congratulations for bringing out of these elegant volumes in spite of difficulties arising out of war conditions.

P. G. S.

Folk Songs of the Maikal Hills. VERRIER ELWIN and SHAMRAO HIVALE., 1944, Oxford University Press, Bombay, pages 410+xxix. Rs. 15.

This book forms the second volume of the specimens of the oral literature of Middle India initiated by the *Man in India*. It bears the stamp of thoroughness and elegance of Dr. Elwin's books, besides the wide knowledge and familiarity of that great though unostentatious student Shamrao Hivale, whose previous volume *Songs of the Forest* is not sufficiently widely known. The authors state that the 619 songs presented here are the cream of their collection of several thousands. They have rendered great service to the cause of indigenous Indian culture by bringing into prominence the real value of India's folksongs. They quote with approbation the appeal of that great Collector of Indian folksongs, Devendra Satyarthi "Let us hope that the national movement will soon recognise the real value of India's folksongs,

and will give impetus to writers all over the country to make an enormous collection, from the living life of the people of almost all the songs, ballads, and all other types of folklore—the legends, folktales, proverbs and riddles”.... “A nation reborn must be inspired by its folksongs”.

The book is dedicated to Mr. W. G. Archer, whose principles for the translation of Indian folk poetry into English are closely observed by the authors. They have tried to represent the original meaning as literally as possible, within the limits of demands of poetry and to avoid introducing a word or image unrepresented in the original. They have avoided rhyme and made no attempt to reproduce the form of the original. The music of the songs has been recorded according to European standards by Walter Kaufman and the book is sure to make a successful appeal also to those familiar with European music.

Folksongs are inspired by the inner soul of a people and are therefore of great scientific importance, especially at a time when their rhythm and beauty are dying out owing to the gradual disappearance of folk-dances, and folk-festivals. They represent the life of a tribe more faithfully than a statistical examination of history of marriages or of murder cases e.g. the high degree of domestic fidelity and undisturbed tribal life of the Murias of Bastar is reflected in their folk-songs. The folksongs collected in this admirable volume amply illustrate the inherent strength of the culture of the primitive in India—in spite of lack of money and of education—as seen in his flair for poetry, his sense of rhythm and a general love of art.

It is hoped that this volume will be the forerunner of many such volumes for the various parts of India, where oral literature is equally prolific. For example, Mr. Jhaverchand Meghani, whose folk-songs of Kathiawar have appeared in journal of the Gujarat Research Society, has already published several volumes of folksongs in Gujarati but they await translation in English at the hands of a literary genius like Dr. Elwin.

P. G. S.

Charans and Charani Literature. JHAVERCHAND MEGHANI, Gujarat Vernacular Society, Ahmedabad.

This critical study of the Charans and their literature coming from the veteran pen of Jhaverchand Meghani deserves interprovincial and international recognition, although it is written in Gujarati. Though primarily intended as a defence of the folk-poetry composed by these itinerant minstrels whose influence spread over the vast areas of Rajasthan, Sindh, Cutch, Sourashtra and Gujarat, it also gives a survey of the twenty-three sub-sections of the Charan tribes and of their various manners and customs. In comparing these bards with those of the European countries, the Anglo-Saxon ‘scops’, the teutonis ‘scalds’ and the itinerant ‘gleemen’, the author shows great familiarity with bardic literature of other countries. The Charans differ from the European confreres in several ways, they show complete identification with the cause of their masters, the records of examples of self immolation and of “Dharana”, practised by the men, and the terrible sacrifices made by the Charani women who are often worshipped as goddesses, are unique in history of bardic literature of the world.

Mr. Meghani has published about twenty volumes on the folklore of Gujarat and Kathiawar and the present one is a critical appreciation of the Charani literature. The Charanas are described in the Epics and the Puranas as celestial bards and their literature is couched in characteristic language, which is capable of being sung to martial tunes, and which dates from about the 8th century when a bulk of the Puranas were composed. The Muslim invasions on Hindu India which commenced from the 7th century led to great readjustments in the social structure of the country and the bards and bardic literature formed an important equipment in the cultural armament of the people. For consolidating the Hindu Princes and Chieftains who occupied the territories of Sindh, Cutch, Sourashtra and Gujarat a great Hindu revival was necessary. The scattered and the quarrelsome feudal lords had to be consolidated into a Rajaputras (the word Rajput is not known in earlier literature) about this period and the itinerant Charan bards whose life was sacred and inviolable performed great services in bringing together these Princes. The Charani language is a special dialect of Hindi supposed to be derived from Dingal which got localised from the Apabhramsha the common language used in this area : it connotes the fundamental unity of the culture of the vast area even though the distances were large and means of locomotion so limited.

Mr. Meghani is a great literary artist and throughout the twenty solid years he has spent in collecting folksongs and folk literature, he has seldom diverted from his standpoint as a poet and *litterateur*. He made clear his attitude in the Vasanji Madhavji lectures delivered by him at the Bombay University in 1943 where he sought to prove that the folk poetry is superior in elegance, freshness and charm to the modern poetry of the present day. It is both however unfair and unscientific to judge the folk poetry by the standards usually applied to modern poetry, for folk songs, folk tales and folk literature occupy their own high pedestal in the Pantheon of cultural history. Yet Mr. Meghani's monograph on the literature in Charani dialect, which is a bridge between Gujarati, Hindi, Rajasthani and Apabhramsha languages, is a valuable addition to the synthesis of the regional languages and the culture of the people of India, a continuous history of which is thus rendered available.

P. G. S.

ACKNOWLEDGMENTS

The Indian Journal of Social Work, December 1944, contains valuable articles on Industrial Health in India, and on Nation-Building through Physical Education which throw strong light on the problems of physical fitness of our population to which the Journal of the Gujarat Research Society has devoted some attention.

Science and Culture, November 1944, December 1944 and January 1945. The Journal maintains its high standard. The principles of regional planning followed by the Tennessee Valley Authority are described in a well informed article. Some aspects of fruit canning industry by Dr. Suresh Sethna of Elphinstone College, Bombay, contains information applicable to the fruit industry of Gujarat.

The Journal of the Ganganath Jha Research Institute, Allahabad, August 1944. Mr. V. V. Mirashi tries to prove that the famous Mānkaṇi grant of Taralasvamin (A.D. 595) is a forgery and that the surmise of Dr. Sukhthankar that "the Gurjaras had adopted the more advanced system of decimal notation much earlier than their contemporaries further south" does not appear to be valid.

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Prakriti : The Journal of the Gujarat Natural History Society, *Kartik, Samvat* 2001, Vol. III, 3-4. Ammonities of Cutch, by D. H. Smith, M.A. (Oxon.); Plants of Gujarat, by B. G. Vaidya, Serpents of Gujarat, by R. G. Kharadi, B.Sc., and the notes about the life of the scorpion are interesting contributions.

Journal of the Indian Merchants' Chamber, Vol. XXXVII, No. 12, 1944, Bombay.

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કુલછાપ : નિયમિત

સયાજી વિજય : નિયમિત

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HEALTH OF GUJARATI CHILDREN AT BIRTH
ANALYSIS OF THE NEW BORN FOR THE YEARS 1928—1942.

By

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The Nutritional Survey of the Gujarati Middle Class Families in Bombay was carried out in 1941-42 under the auspices of the Gujarat Research Society. The report of the Survey published in the Journal of the Gujarat Research Society in its January 1943 issue was very illuminating and gave valuable information regarding the quality of the diet of the Gujaratis and their physical development. Of the many conclusions the following were some in regard to mothers and children :

(1) "The females and children are markedly ill-nourished. If a sound structure is to be erected the foundation must always be strong. This principle is ever so applicable in the case of human beings ; the greatest medico-social emergency, therefore to-day is the improvement of the physique and health of the females and children. If the damage during the formative period of life is prevented by proper dieting, it is possible that half of the ills will have been corrected."

(2) "The Gujarati diet is deficient in total proteins and much more in animal protein and in vitamin A and is rich in fats. The fat intake is much higher compared to most of the diets investigated in India i.e. consumption of milk and green leafy vegetables is less and that of ghee and vegetable oils more."

(3) "The clinical state of nutrition as seen by measurements and general examination is poor."

Mr. P. G. Shah analysing the records of the Insurance Companies and reports of the Medical inspection of the Bombay University and of the school children, in the January 1939², and April 1940³ issues of the Journal of the Gujarat Research Society observed that :—

(1) The percentage of students who could be considered as fit to belong to A class was very small in every one of the colleges in Gujarat. The percentage of students of A class all over Gujarat and Kathiawar Colleges varied between 30 and 40 and thus at least 60 per cent. of the students in those colleges were below normal standard.

(2) These students presented a low standard of physical measurements. Their average weight was lower than the normal for the students of Bombay Presidency.

(3) What was most alarming was that the figures for 1936-37 showed a further deterioration in the Gujarat and Kathiawar Colleges and it appeared that unless some steps were taken the situation would worsen every year.

These observations on the health and nutrition of the Gujaratis were very deplorable truths and produced gloomy future. In the attempts to stay the rot and improve their physical condition it was necessary to find out at what stage the process of deterioration began. An adult was found to be below normal. A college student compared unfavourably with his colleagues of other communities, a child at school was underweight and underbuilt. Did the new born and an infant of Gujarati parents stand well in comparison with those of other communities? Was the new-born a vigorous and healthy babe? Was the process of evolution of his physical growth encouraging or did the process of progressive deterioration observed by Mr. P. G. Shah commence right from birth?

At the instance of the Gujarat Research Society, we undertook to inquire into this problem by studying the Gujarati new born in the city of Bombay. A scheme prepared by us and approved by the Medical Committee of the Society was to collect data from the records of the maternity hospitals admitting Gujarati Hindu women for confinements. The Kanchangauri Maternity Hospital, Sheth G. R. Bhagat Hindu Maternity Hospital, Maternity Department of Sir Harkisondas Hospital and Dr. Chamanlal Mehta's Hospital for women were selected for the purpose. A form for collecting the data was prepared and printed. It was considered advisable to spread the investigation over a period of fifteen years. The period 1928 to 1942 was taken up for the study. This was divided into three periods of five years each. The findings of five years periods were compared and contrasted in order to determine the average weight of a child at birth and its evolution during the subsequent periods. We had decided to find out the weight and height of a new-born and its condition at birth. Unfortunately the height at birth was recorded only in a small number of cases. We therefore had to stop inquiring into it.

24,655 babies born of the Gujarati women during the fifteen years period (1928-1942) were reviewed.

TABLE I (Births, Sex, Condition)

Total birth.	Male.	Female.	Born alive.	Still Birth.	Dead during 10 days.
24,655	12,810	11,845	24,227	428	851

Of the 24,655 births, there were 428 still births which gave the proportion of 17.36 to 1000 births. Of the 24,227 live births 851 children died during the first ten days i.e. 35.1 to 1000 live births.

For the city of Bombay these figures as published in the reports of the Executive Health Officer of the Bombay Municipality have been :

Years.	Total Births.	Still Births.	Neonatal Deaths within 7 days of birth.
1928-1942	5,12,097	34,294	32,790

Still Births 66.96 per 1,000 births.

Neonatal Deaths 63.62 per 1,000 live births.

There were 12,810 male and 11,845 female babies born showing an increase of 965 males over females.

TABLE II

Periodic distribution of male and female children

Period.	Total Birth.	Male.	Female.
1st (1928-32)	4,534	2,330	2,204
2nd (1933-37)	10,036	5,171	4,865
3rd (1938-42)	10,085	5,309	4,776

The total number of births in the first period (1928-32) was small because Sir Harkisondas and Sheth Bhagat Hospitals had not come into existence in this period and records for 1928-29 were not available from Kanchangauri Hospital.

It would be seen from Table II that in every period more boys were born than girls.

TABLE III

Periodic distribution of still births and deaths

Period.	Total No. Births.	Still Births.	Per 1000 Births.	Deaths during 10 days after birth.	Per 1000 Live births
1st	4,534	70	15.4	126	28.2
2nd	10,036	147	14.6	377	38.1
3rd	10,085	211	20.9	348	35.2

During the 3rd period there was a great increase in the still births from the 1st, though during the 2nd there was slight improvement. This showed that the health of the mother was worse during the 3rd period than during the first. Deaths during the first ten days was 28.2 per 1000 live births while they increased to 38.1 and 35.2 during the subsequent periods which showed that the condition of the children was progressively deteriorating.

The figures for the Bombay City have been as follows :—

Period.	Total No. births.	Still births.	Per 1000 births.	Deaths during 10 days after birth.	Deaths Per 1000 live births.
1st	1,55,866	11,801	63.43	7,967	54.30
2nd	1,70,438	9,887	69.23	9,156	57.79
3rd	1,85,293	12,606	68.03	15,667	90.72

There is a steady increase in the neonatal deaths. Still birth during the 2nd period is more than the 1st. There is a slight improvement in the 3rd period over the 2nd.

Weights.

Records of weight were available for 24,625 new borns. These were summarised for those having weight below 4 lbs., 4 lbs., and for every increase of half a pound upto 7½ lbs. More than 8 lbs., and above have been grouped together.

TABLE IV

No. of children born with different weights in each period
Weight in pounds.

Period	Below 4	4	4½	5	5½	6	6½	7	7½	8 and above.
1st	244	255	271	700	573	1,140	673	481	155	126
2nd	405	342	474	1,541	1,391	2,659	1,399	1,212	350	263
3rd	441	456	689	1,690	1,733	2,343	1,330	904	297	189
Total : for 15 ys.	1,090	1,053	1,434	3,931	3,697	6,132	3,420	2,597	802	578

For determining the average weight of a child all babies of 4 lbs and over were considered while those with weight below 4 lbs were eliminated. There were thus 23,628 born with weight of 4 lbs. and more. The aggregate weight of all these babies was calculated to be 1,38,396 lbs.

The average weight therefore of a new born as calculated for 15 years was lbs. 5- 13⁷/₁₀ oz.

Some years ago Dr. Dugmar F. Curjel of W.M.S. carried out investigation on the weight at birth of Indian children. A small number of children were taken up from various communities and from various parts of India. Total number analysed was only 1849. Her findings for average weight were as under :—

Hindus	.....	lb. 6.45	Parsis	.....	lb. 6.8
Musalman	.....	lb. 6.44	Europeans	.....	lb. 7.64
Outcast	.....	lb. 6.9	Non-Indians	.....	lb. 7.39
Indian Christian	.....	lb. 6.5			

This clearly shows that the average weight of a Hindu Gujarati child in the City of Bombay is far below the average weight of an Indian Hindu child. One must, all the same, remember that the number of cases analysed by Dr. Curjel was very small to ascertain average weights.

TABLE V

Average weight for each period

Period.	Total No. 4 lbs. and above	in lbs. Total weight	Average weight. lbs. Ozs.	
1st	4,273	25,653	6	0
2nd	9,631	57,067	5	14 ³ / ₄
3rd	9,724	55,676	5	11 ³ / ₅

It was clear from the above tables that a Gujarati child was not only under weight at birth but that it was steadily deteriorating. In the first period (1928-32) the average weight at birth was 6 lbs. During the 2nd (1933-37) it was 5-14³/₄ oz. while during the 3rd period (1938-43) the weight went down to lb. 5.11 ³/₅ oz.

While in other countries efforts to produce healthy and heavy children are achieving favourable results, the Gujaratis are progressively going down in health.

Children with $4\frac{1}{2}$ lbs and less were considered as immature. According to this standard there were 3,577 immature babies born during the 15 years period under review giving an average of 143.5 per 1,000 births.

TABLE VI
Immature Birth for each Period

Period.	Total Births with weight recorded.	Immature.
3rd	4,517	770 = 12.6%
2nd	10,036	1,221 = 12.1%
1st	10,072	1,586 = 15.7%

There seemed to be slight improvement of 0.5 p.c. during the 2nd period, but the immaturity increased considerably during the 3rd period, the increase being of 3 p.c.

TABLE VII
No. of children born with better weight

Period.	No. of births.	5-5½	6-6½	7-7½	8 and above.
1st	4,517	1,273 28.3%	1,813 40%	636 14%	126 2.8%
2nd	10,036	29.32 29.2%	4,058 40.4%	1,562 15.5%	263 2.6%
3rd	10,072	3,423 34%	3,673 36.4%	1,201 11.9%	189 1.9%

During the 2nd period (1933-37) though the average weight was less than the 1st the number of children born with weight of $6-6\frac{1}{2}$ lbs, and $7-7\frac{1}{2}$ lbs were slightly more than in the 1st period. During the 3rd period this situation considerably deteriorated. Along with the reduction in the average weight there was a good decrease in the number of children born with weight above the average. What could be the factors working during the 2nd period which helped to increase the number of better weight children and yet the average weight was less than in the previous year. It is rather difficult to solve this paradox: Could it be that people with better income and better nourishment took advantage of these hospitals during this period? Only two of the four hospitals had arrangements to admit better class persons. In the 1st period Sir Harkisondas Hospital had not started while admissions to Dr. Chamanlal's hospital have not particularly increased during the 2nd period. Could it be that this improvement is only apparent and not real, the number of births in the 2nd period being double than those in the 1st? The 3rd period, in which there is a great deal of deterioration and in every aspect of this analysis, includes some years of war which was declared in September 1939. For the first two or three years, there was neither high prices nor scarcity of food, there was no control on the available food-stuffs and no rationing. What were the causes of the deterioration in the average weight of the children, in the number of better weight babies and an increase of still births and in neonatal deaths? Only factor to which this deterioration—a progressive deterioration could be attributed was the diet of the mother—deficient both in body building as well as in protective elements of foods. To those who have

been working at the Antenatal clinics it is a common knowledge that a great majority of Gujarati expectant mothers abhor milk and vegetables which are steamed or boiled. They are usually fond of fried things.

This low state of health of mothers was clearly evident in the investigation carried out by one of us in collaboration with others on the blood picture in 965 pregnant Gujarati Hindu women. On the standard laid down by Col. Sokhey and others for Bombay Presidency women 92.65 per cent, of Gujarati pregnant women were below par in their Haemoglobin quantity and R.B.C. Count. Inadequate and ill-balanced diet was noticed in these cases of Anaemia.

The situation is alarming in the city of Bombay. Indifference of the public in the matters of diet and health, inability of the mothers to select proper diet during pregnancy, economic deterioration of an average middle class Gujarati family, lack of facilities for hygienic living, increasing fondness to spend on luxury articles and cinemas, lack of exercise and craze for reducing the diet in order to remain slim are, we think, some of the causes contributing to the deterioration observed in the study. The war hardships have added to the difficulties already existing.

If the progressive deterioration is to be checked, energetic and intensive propaganda is required to bring these facts home to the Gujarati public by the social organisations, Women's Associations, Municipalities and the Government. Steps would be taken by them to spread knowledge in hygienic living and selection of diet for preservation and promotion of health.

This is an analysis of children born of Gujarati Hindu Women. In order to get information of the Gujarati community, it is contemplated to study the new born from the hospitals in the city of Bombay admitting Parsis and Gujarati Mohammedans.

We are of the opinion that this study should be extended to the towns and country of Gujarat and Kathiawar to elicit information about the new born of Gujaratis.

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INDUSTRIAL POSSIBILITIES OF GAS AND OIL IN GUJARAT

By

SIR SULTAN CHINYOY

The presence of Natural Gas at Gogha near Ahmedabad tempted me to investigate further. When I went to America in the year 1934, I took the opportunity of consulting American experts and brought over an expert from Canada and with the help of local drillers carried out drilling operations in the Gogha area. Gas was struck at a depth of 341 feet and the quality of the gas when analysed was admittedly very good and of large commercial value.

The area of the gas strata is very large. The gas field extends through a vast area which would include South-East part of Kathiawar peninsula, Western part of the main land near Broach and the gulf between two places, Telwa and Gogha.

It is estimated that the gas on the reckoning had a 12 mile area which would give about 37,000 cubic feet and that this has now continued to escape for last 30 years and it gives me an impression that oil is the cause of this gas. The estimated pressure at the start was 224 lbs.

The geographical and climatic conditions around Gogha bear a marked similarity to the oil area in Texas in America and in Persia.

An outcrop of Tertiary rock at Gogha and Piram island in the middle of the gulf of Cambay are also marked indication of an oil or gas country.

I am of the opinion that the oil area is in the direct line with Attock.

Further exploratory drilling to a lower depth would disclose a huge potential field.

It is considered that an industrial organisation in consultation with experts to exploit the possibilities of oil in this area would prove of tremendous value to the industrial advancement of India in the Post-War era.

I append a note containing the more scientific facts about the gas from Ghoga. :—

"Gogha (Lat. 21° 41' N. Long. 72° 19') is situated on the north-east coast of the Kathiawar Peninsula and is 14 miles to the south-east of the town of Bhavnagar. The water of a bathing pool in this area is highly charged with gas. The water of the pool is used for washing purposes by the local people who ascribe it medicinal properties. The temperature of the water at the manhole is 110°F. When a lighted match is brought in its neighbourhood, the gas takes fire and burns evenly.

It is a singular phenomena that the gas bearing strata are found at other places besides Ghoga in Gujarat. The following figures of analysis of the gas found at Baroda, Ghoga and Jagatia are of great scientific importance.

	Ghoga.	Jagatia.	Baroda. Dewan's Bungalow.	Laxmi Vilas Palace.
CH ₄	81.8	98.0	94.2	70.3
CO ₂	1.8	1.0	.65	.40
N ₂	16.4	1.0	5.15	8.5
Sulphur gases	Nil	Nil	Nil	Nil
Oxygen	Traces	Nil	Nil	.80
Helium	Nil	Nil	Nil	Nil

It appears that the conditions in which the gas occurs seem to be somewhat similar to those at Ghoga. As a matter of fact the whole Tertiary formation on both sides of the gulf of Cambay seem to have originated under more or less similar conditions.

It is evident from the above records of analysis that the gas in all these localities would be of great economic value were it obtainable in large quantities.

For a proper understanding of the conditions under which the gas occurs, a knowledge of the geology and the structure of the area is helpful.

Gogha and its neighbourhood are composed chiefly of Tertiary strata which occur as a belt fringing the basaltic highland on the west and shelve into the gulf of Cambay on the east. It may be mentioned at the outset that the gas occurrences at

Gogha, Jagatia and Baroda are all in strata of Tertiary age which were probably laid down on the shores of the same sea (Gulf of Cambay). The total surface area along the north-east coast of Kathiawar (where Gogha is situated) occupied by the Tertiary rocks is about 40—50 sq. miles. Tertiary strata crop out from under a cover of alluvium intermittently all along the south and west coast of Kathiawar along the margins of the basaltic plateau. Towards the east, they appear again in the Island of Piram (6 miles south-east of Gogha) and in the shoal between the island and the peninsula. It is presumable that a considerable portion of the Tertiaries is hidden under the Gulf of Cambay.

The tertiary strata are unconformable to the lateritic rocks (derived from the underlying Deccan Trap) on which they rest in eastern and western Kathiawar, while in the south the latter are absent and the Tertiary beds in places lie directly upon the cretaceous Deccan Traps with an unconformity. It is evident that the lower limit of the gas bearing strata is defined by the Deccan Trap.

In Sections along the sea coast in the neighbourhood of Ghoga the following formations are seen :—

Recent	.....	Alluvium—variable thickness	
Tertiary	.....	} Clay	Calcareous Conglomerate 15'
			Calcareous Sandstone unknown depth 3'

Calcareous conglomerate is probably represented by the bore-hole log between 35'—50' of the second bore-hole at Gogha. It is to be noted that as the geologist had no access to the cores which have been destroyed long since, it is impossible to check the nomenclature adopted by the boring officers. It is unfortunate, as the data offered by the records do not help in correlating strata even within a distance of 20 feet (compare the strata between 35'—50' in the logs of the 2nd and 3rd bore-holes at Gogha. It is not unlikely that the same strata have been described under different names in different localities. Nor is there any chance of knowing if the strata were fossil-bearing as it is quite possible that tests of foraminifera which are the fossils likely to occur here have escaped detection. However it is clear from the bore-hole records that the clay rocks are predominant in depth. The conglomerate in the natural sections is found to contain tests of foraminifera, bryozoa, etc. The occurrence of fossils is interesting as they have not been reported from this locality so far."

GEOLOGICAL EVOLUTION OF THE BOMBAY ISLAND

By

Dr. A. S. KALAPESI

Prehistory :

Long before the dawn of history, possibly prior even to the advent of man upon the earth, Bombay formed a part of the mainland of India. Successive earth movements, subsequent to the volcanic activity, must have caused faulting along the present west coast of India and the portion which originally was to the west of this fault line went down into the sea ; and this abrupt stoppage or scarp-side near the Bombay coast is the result of this faulting. The age of this faulting is post-

Deccan Trap and probably as late as Pliocene. This is quite evident from the fact that the Deccan Traps are several thousand feet thick along the Bombay coast and gradually thin down eastwards. About this period the existing ridge of the Western Ghats must have been broken up into several islands lying off and fringing the western coast of the Peninsula. The present Island of Bombay is one of the multitude on the western shore of India. The present Island of Bombay was an archipelago of mere island rocks, divided by narrow creeks during the Palaeolithic period.

Protohistory :

Ever since the dim days of navigation the trade between Western India, Babylon and Egypt has been monopolised in turn by invaders from the north (Gujarat), from the south and from the east and has allured strangers (foreigners) from the continents to these shores. One after another the famous ports of Sopara, Bassein, Thana, Kalyan, Chaul and Janjira have risen, flourished and decayed. Sopara was the chief town and port for the Mesopotamian trade until 400 B.C., when its splendour and importance were eclipsed by Chemula (Cheul). Megasthenes, writing about 300 B.C. describes Perimula or Automula (Chaul) as the most famous mart of India, situated where five rivers flow into the sea (Bombay harbour); the five rivers being the Amba, the Bhogeshwari (the Pen), the Patalganga, the Ulva (the Panvel) and the Ulhas (the Thana). Jews, Christians and fire-worshippers (Parsis) immigrated in large numbers to Saimur (Chaul), which was then a large and well-built city containing many mosques, churches, synagogues and fire-temples. Chaul, modern Revdanda, Lat. $18^{\circ} 34' N.$ and Long. $72^{\circ} 55' E.$ south of Alibag in the Kolaba district is about twenty-five miles south of Bombay. Chaul is situated near the mouth of the Kundalika river (Roha Creek), Map II. The ancient Hindu name of Chaul was Champavati. Bombay and the Western littoral were known to the ancient Aryans as *Aparanta* or the Western Border.

Ptolemy, the Alexandrian scientist, was the first to vaguely designate (A.D. 150) Heptanesia, as a locality situated on the Pirate Coast, between Bombay and Goa, which Lassen identified with Bombay, the harbour of which was believed to be formed of seven islands. In fact the present Bombay Island is constituted of seven islands. These islands, starting from the south, were (Map I) : I. Colaba; II. Old Woman's Island; III. Bombay (Central Island); IV. Mazagaon; V. Parel-Sewri-Sion; VI. Mahim; VII. Worli. These seven islands were separated by narrow creeks from one another often contracting to a few scores of yards in width, some dry at half-tide and widening and deepening as they approached the sea. The islands except Mahim, for the most part rose into round or nearly flat-topped hills, varying from 100 to 200 feet in height.

Ancient Inhabitants :

From the south came the most notable feature of the Bombay landscape, the cocoanut palm ((*cocos nucifera*) trees, which seem to have reached India from the Malaya Peninsula by way of Ceylon. When man made his first home in the clusters of these islands he was yet in the Stone Age. Some palæolithic implements have been collected by de Terra, Col. Todd and Kalapesi from Kandivli (Bombay). In the Dark Age scattered over these islands were rude hut-settlements occupied

by dark-skinned aborigines, the Kolis. The Koli fishing-folk of Bombay, in all likelihood, must have been descended from the pre-Aryan population of Gujarat, which gradually spread itself over the western littoral and absorbed the hunting and fishing clans of the Stone Age. It appears that the Kolis (the aborigines who occupied these islands) brought with them, most probably, from Gujarat their patron goddess *Mumbā Devi*, which, under the title of *Mumāi*, is still worshipped as a village goddess in Kathiawar. Thus this goddess became the patron goddess of Bombay.

Origin of the Name :

The name Bombay is believed to have been derived from the name of the tutelary deity of the then islanders—"Mumbā Devi" or "Mumbā Ai," the patron deity of the Kolis. The Hindoos even today speak of the city as 'Mumbai'. Her temple first stood in the central island, that is, the third of the group, which in course of time during the Portuguese possession, grew to be called 'Mombaim'. Later on, during the British occupation, this gradually changed into Bombay, and spreading to the other six islands ultimately affixed itself to the whole Province. Her shrine was situated near the *Phānsi Talāv* or Gallows Pond in the immediate neighbourhood of the site now occupied by the Victoria Terminus of the G. I. P. Railway. Later on (about 1760) the temple of Mumba Devi was removed to its present site, at the south-west corner of the great Mumbadevi Tank in the very heart of the city.

Change of Masters :

In turn the island groups came to owe suzerainty both to Hindu and Mahomedan powers in historic times. The dawn of the sixteenth century brought another change of masters. The history of Bombay commences in 1534 with the cession of these islands to the Portuguese by Sultan Bahadur of Gujarat. Thus the 'Heptanesia' passed from Mahomedan into Christian hands. In 1661 the marriage treaty of Charles II of England was signed, and the mixed dowry brought by Portuguese Princess Catherine included these seven islands. Afterwards these islands were transferred by the Crown of England to the Honourable East India Company by Letters Patent in 1668 at a nominal rent of £ 10 per annum but the Company was neither to sell nor to part with them. The Honourable East India Company came to an end with the Mutiny, so that in 1857 they reverted to the Crown. About 1673, the original seven islands had become four. This was effected by the silting up of the breaches and overflowing of the sea in some places. The *four* were : (1) Colaba and Old Woman's Island ; (2) Bombay, Mazagaon, Parel, Sion and Dharavi ; (3) Mahim ; and (4) Worli. The remaining four islands have been gradually, by the end of the eighteenth century, all welded together by raised causeways, embankments and by the filling up of estuaries. The shallow channel between Sion and Trombay was also silted up by the middle of the nineteenth century.

Topography and Place-names :

The southernmost of these islands (No. 1) lay as a narrow tongue of rocky land, now called Colaba. The Kolis, lived here in this island, which thereby acquired the title of '*Kolābhat*', the Koli hamlet, now Colaba. Formerly Colaba was divided in two by the sea. The smaller half (No. II) bore the title of '*Al-Omanis Isle*', i.e., the Island of Deep-Sea Fishermen. With the advent of the English this changed into

Old Woman's Island. The creek which separated Old Woman's Island and Colaba ran somewhere between the site of the Colaba B. B. & C. I. Railway Station (now demolished) and a point just north of the Sassoon Dock road. The Arthur Bandar marks the north-east extremity of Colaba. But the name 'Old Woman's Island' exists no longer at present; both the islands have, by human hand, been linked together by a causeway under the one name, Colaba. Lower Colaba is Old Woman's Island; and Upper Colaba is original Colaba.

Going northward there was a wider channel, and to the opposite side of it there appeared a curiously-formed land resembling in some degree to the letter 'H'; this was (No. III), the central island, (Bombay), Map I. The channel between Old Woman's Island and this island was crossed by a ferry-boat worked on a rope; the distance between the jumping off spot from Old Woman's Island (Lower Colaba) to Apollo Bandar on the central island (Bombay) was 300 yards. A stone tablet recording this fact still exists in the compound of the Colaba Police Station. The creek was filled up and a causeway was built in 1858. The western portion of this island was composed of a ridge of hills (Malabar and Cumballa) covered with rough jungle; the Malabar Hill runs down southward from Walkeshwar in a point into the sea.

The name Walkeshwar is supposed to have been derived from '*Valuka Ishwar*', meaning 'Sand Lord'. This owes its origin to the legend of *Rāma*; when on his way to *Lanka* (Ceylon) in quest of *Sita*, he halted near the very spot where the present Walkeshwar Temple stands. *Rāma* dispatched his brother *Lakshman* to *Kashi* (Benares) to bring from thence a *Lingam* of supreme potency and he himself in the meantime fashioned a *Lingam* of the sand of the sea-shore. The original Walkeshwar Temple which was built by the Silaharas of North Konkan (810-1240 A.D.) in honour of the 'Sand Lord' was eventually destroyed either during the Mahomedan or the Portuguese suzerainty. This said *Lingam* is believed to have leapt into the sea in order to avoid pollution, while the other *Lingam* (Wish Stone) which *Lakshman* eventually brought is supposed to be the identical one now worshipped in the present Walkeshwar Temple.

The original temple derived a large measure of its sanctity from the proximity of the *Shri-Gundi* ('Lucky Hollow' or 'Holy Cleft' or 'Orifice of Purification') located on the very edge of the sea. This very site since the early years of the British rule has been styled as 'Malabar (Walkeshwar) Point.' The *Shri-Gundi* is a cleft-rock at the very end of this point, a fancied *Yoni*, of no easy excess because of its elevation, narrowness and incessantly surf-beaten in the stormy season. To this spot resorted many pilgrims, intent upon self-regeneration by the perilous passage through the *Yoni*, which was considered capable of driving out all sin. Among the great personalities of the history of Bombay (India), who are said to have passed through the cleft, were Shivaji, who desired to be free of the haunting presence of the murdered Afzul Khan and Raghunath Rao Peshwa, during his sojourn here as an exile (1774-1780) from Poona, sought to rid his soul of the guilt of the murder of Narayan Rao by passing through this sacred orifice.

At the eastern edge of the nearest promontory of this island going northward there was a rude landing-place or beach used, doubtless, by the aboriginal fishermen; around this spot had grown up a species of shrub or tree, and the place was known

as "*Pāllav Bandar*", the harbour of clustering shoots. From "*Pāllav*" to "*Pālo*" and final alteration during the English occupation to "*Apollo*"; the Apollo Bandar is one of the best known places of present Bombay.

The place now occupied by the Fort and the Esplanade as well as a part of the Native Town up to Pydhownie belonged to this island. It is probable from the aspect of the shore (Back Bay) that this had a direct connection with the hilly ridge (Malabar-Cumballa) on the west by a sandy ridge between the present Girgaon Road and the sea. A very slight diminution of the existing height would have allowed the sea to sweep clean through from Mahim and Worli to Back Bay, present Chowpatty. The word Chowpatty really means "*Chow pati*", i.e. four channels; it might have formed four channels in the neighbourhood of Girgaon. At Chaupati in Back Bay native trading vessels are accustomed to discharge even today cargoes of tiles, bricks, lime, bamboos and Indian pottery during the fair weather. The sea then flowed through the Worli and Mahim breaches at high tides and swept over those regions which now form the central sections of the city, the 'Flats'. Girgaon is derived from "*Giri-grāma*", the 'Hill village', which was situated at the foot of the Malabar Hill in the neighbourhood of Back Bay. The eastern side of this landmass was bounded from the north by a rocky ridge, which was called '*Dongri*' meaning the hill tract.

This island was severed from the next (No. IV), i.e. Mazagaon by *Umbar-khādi*, i.e. a creek of the "Fig Trees" (*Fecus glomerata*). The name Umbar-khādi shows that, when it was given, there was at Mazagaon, a creek of the Fig Trees. *Khādi* is the word which is generally applied to a salt-water marshy creek dry at ebb-tides. That it was shallow with a muddy bottom is further proved by the name *Pāi-dhoni* (meaning foot-wash) given to that portion of the main island (Bombay) situated in the neighbourhood of Mumbadevi at which there was a ferry; persons arriving from Mahalaxmi, Mahim and Salsette by boats used to land here and after fording washed the mud from their feet (at Pydhoni) before entering the town (main island). The neighbourhood of the Mazagaon Gaol is called Umbarkhadi. This breach on the eastern side (Umbarkhadi) had apparently been silted up by the time the British occupied Bombay. Passing across the Fig Tree creek (Umbarkhādi) to the shore of the fourth island we enter Mazagaon, which is derived from *Machha-grāma*, meaning 'Fish Village'. On this island going westward was a level stretch of land extending as far as the marshy domain of the sea, present Byculla. Mazagaon is rather hilly and the origin of its name proves that the Kolis had settled here from a very long time. This is also corroborated by the existence to this day of a temple of *Ghorupdev*, a 'Koli-God'.

After Mazagaon, going northward, across the ocean's intercepting arm there came the fretted coast of a large island, Parel-Sewri-Sion (No. V); when the British got these islands, the creek (Umbar Khadi) between the fourth and the fifth islands seems to have been almost silted up. In the extreme south of this island lay a tamarind-covered valley, called "*Chinch-pokli*", the dale of Tamarinds (*Tamarindus Indica*), now known as Chinchpooghly. The valley was succeeded by level ground containing the village of Parel, enclosed on the east by rising ground and on the west by the sea. On the eastern side of the rising ground lay a small promontory called "*Shiv-Vādi*" or "*Shivādi*" meaning the garden of *Shiva*, containing a shrine of

'Shiva'; from "Shiv-vādi" to "Shivāri" and then to 'Sewri'. Lastly on the verge of this long island lay, the Boundary-hamlet, "Simva", i.e. limit or boundary; it is now called 'Sion', being a Portuguese corruption. It was the last inhabited spot before one voyaged across the strait (Mahim river) to the island of "Shāshashti" or sixty-six villages, now Salsette. On the north-east corner of this island is a hill on which was built a fort, the Sion Fort. The breach between Sion and Mahim was filled up about 1710-1712; thus the fifth island was joined to the sixth, Mahim. Formerly, Trombay was separated from this (the fifth island) by a bay and mud flats of the harbour; this swampy area was gradually silted up; later on the low land between Sion and Trombay was reclaimed and roads were built; thus Trombay became a part of the Bombay Island. Towards the south at the foot of the Trombay hill, about 1,000 feet high, is a tomb, called Pir Pāv.

To the west of the fifth island (Sion) was Mahim (No. VI), one of the oldest known, which begins just after the embankment from Sion-Dharavi. "The breach of Sion" is here used to designate three distinct breaches, which were: (1) Sion to Riwa; (2) Riwa to Dharavi; and (3) Dharavi to Mahim. These breaches were filled up by dams and embankments about 1710-1712; thus the fifth island was joined to the sixth, Mahim. On the north-west point of the island is Mahim town. In the historic times about A.D. 1300 when Bimb ruled in Salsette, this town was a city called "*Mahikāvati*" and hence the name '*Māhi*' or *Māhim* has been derived. It was the capital of Bimb or Bhim Rājā. During the Mahomedan suzerainty, the shrine of "*Kālkā Devi*" or "*Kālī*," the goddess of the aboriginal Kolis was removed to the central island (Bombay) of our Heptanesia. This has eventually left the legacy of its name to that modern road of the city, 'Kalkādevi' or Kalba-devi' Road. The Mahim Fort was situated upon the western point of the island in a low, sandy foundation. There was the old Bandar, on the opposite side of the Mahim river, present Bandra; there was a ferry-boat employed constantly in carrying over passengers. The sea has been encroaching upon the shore of Mahim from a long time and has wasted away a considerable piece of land. Here is situated the English Customs house. In the Mahim river formerly plied large boats and had a considerable trade in cocoanuts, coir, cotton, etc. From the Mahim Fort to the southern end of this island which has been joined to the seventh island, Worli, there is a fine large Bight, between the Worli Fort and the Mahim Fort, called the Mahim Bay, in which there is a beach called the Mahim Sands. The beach is a few feet above high-water mark and it chiefly prevents the sea from overflowing the centre of the island; and here there are no strong waves or surfs. This island, unlike other islands, is sandy.

At the extreme south end, Mahim (No. VI) was separated from the seventh island, Worli, by a breach or channel; though at low water it was mostly dry at high or spring tides it was not passable on foot. This breach, between Mahim (No. VI) and Worli (No. VII), was dammed up about 1712. Rocky and narrow this island (Worli) lay like a carelessly-placed barrier in the path of the tide, stemming the direct onslaught of the ocean, yet allowing it at the same time to creep through breaches at both the extremities (Map I). The most noteworthy feature of this island was a fine grove of Banyan Trees (*Ficus Bengalensis*); and this

led to the name "Wad-ali", i.e. 'Banyan Row', being applied to the whole island. Later on, it became "War-ali" which has now become "Warli" or Worli.

Worli, the last of the seven islands, is situated on the western bounds of the Bombay Island, and there were two breaches at the extreme ends of it. It is mostly a high, rocky land, running in a continued ridge. At the extreme northern point on a steep promontory, jutting out into the sea is the Worli Fort. The town Worli, situated at the foot of the hill on which the Fort stands, is lying along a fine sandy beach. Near the town is a spring of palatable water. Here there is a landing-place much used in the past; but even to the present day native trading vessels discharge cargoes of wood, lime, tiles, bricks, Indian pottery and bamboos during the fair weather. At the southern extremity of Worli (No. VII) the hill falls down with a steep, broken descent, and the rock tails southwards into the great breach, the largest of all, between the southern point of Worli (No. VII) and Mahalakshmi, the northernmost point of Cumballa Hill (No. III). The Vellard (from Portuguese, *Vellado* = fence) between Mahalakshmi and Worli was constructed during the Governorship of Mr. Hornby in 1783. This breach is known as 'Breach Candy', meaning the breach at the mouth of the hollow or pass. The word seems to have been locally applied to the break or gap through which the sea flooded the 'Flats'; while 'Candy' is the old spelling of the word 'Khind', meaning a dell or pass. Through this breach the tide would come racing over the Byculla 'Flats' sweeping across the whole Bellasis Road, thence to Grant Road invading Khetwadi, and then swept past through Duncan Road, onward through Bhendi Bazaar, and quite up to and northward of the identical spot known as Pydhoni.

Present Boundary :

The building of the Hornby Vellard rendered available for settlement and cultivation the wide stretch of the 'Flats', and resulted in the welding of the eastern and western shores of the Island into one united landmass, the present Bombay Island. The Island of Bombay, after artificially connected, throws out a long projection southwards from one (western side) extremity forming the Malabar or Walkeshwar Point; while the other (eastern side) stretches out southwards nearly parallel to the Malabar-Cumballa ridge, but extends much more seaward right up to the Colaba Point. The two promontories terminating at the Malabar Point from the southwest, and at the Colaba Point from the south include a great Bight called 'Back Bay' between them.

Physical Features :

From the Malabar Point (Walkeshwar) to the Cumballa Point (Mahalakshmi) is a fine bold ridge of black lava (andesite), nearly three miles in length and about half a mile across, maintaining an elevation close to 200 feet above the sea. Opposite the Back Bay and the Love-Grove hill there are two independent ridges, one, the Parsi Tower of Silence Hill of unequal elevation and the other, the Cumballa Hill which is slightly lower in height. They are divided from each other by a deep dell or pass of some half a mile in length and about 400 feet across, probably being in the neighbourhood of the present Gowalia Tank Road. Again the Malabar Hill ridge is partly broken across near Tanker Ville, by the deep hollow through which the public road now passes. The principal feature of this ridge is that it is more

or less precipitous towards the east, while it slopes more or less suddenly towards the west. The ridge continues on to Mahalaxmi where it sinks under the level of the sea; and from this point for about half a mile the ridge disappears under the sea. It re-appears in the eminence, the Ram Hill (Love Grove) and it once more disappears under the sea and once again re-appears just beyond forming the edge of the Worli Hill. At Worli village it disappears under the sands and alluvium; then it rises suddenly across the Mahim creek at the promontory of Bandra, and continues northward as a great sea-wall all along the western shore for ten to fifteen miles as far as Danda (Salsette).

The other rocky ridge (east shore) extends from the Colaba Point (Lighthouse) northward all the way to the Sion Fort, on the eastern side of the Island and facing the harbour. Instead of forming one continuous ridge, like the one from Walkeshwar to Mahalaxmi it often sinks down to the level of the sea, where it is covered over with alluvium, and is only traceable in wells, quarries and other excavations. It sometimes rises into knolls, sometimes into little hills of about 100 feet in elevation, e.g. Mazagaon Hill, Sewri Hill, Parel Hill, etc.

In the middle of these islands (Bombay, Parel-Sion, Mahim and Worli) was a hollow wherein was received a branch of the sea running out at three different places. The three places where the sea found admission were at the Worli and Sion sluices, and the opening at Mahalaxmi and Love Grove.

The present Island of Bombay consists of a low-lying plain (almost perfectly flat, about a fourth of it being in reality under the level of the sea) about eleven miles long by about four miles broad, flanked by two parallel ridges of low hills, which intersecting below high-water level beyond Colaba, form the dangerous reef marked by the Prongs Lighthouse. The lighthouse is intended to guard the Prongs Reef the extremity of which dries out at low-water. There is foul ground all round for about a mile beyond the lighthouse. It covers an area of about thirty square miles, and is united at its northern extremity with the larger Island of Salsette and so it is continuous with the mainland of India, by means of two causeways, one at Mahim and the other at Sion, and two railway embankments and bridges. The level plain, the 'Flats', between the two lines of high rocky ground on its west and east is evidently of different formations. The southern portion, extending a short distance inward from the shore of the Back Bay, over the quarters of Girgaum and Khetwadi was covered with a dense growth of cocoanut palms, indicating a sandy soil; while the bare treeless rice fields stretching away northward showed that the soil was clayey, till a patch of sandy soil occurs again in the extreme north as shown by the cocoanut palm groves that follow the curve of the Bight or Bay of Mahim.

Situation of the Island :

With respect to its relations with the mainland of India, the Bombay Island is separated to the north from the mountainous Island of Salsette, by a channel (estuary of the Mahim river) narrowing to a part not more than about 120 yards wide. To the south and east of Bombay is its harbour, in which there are several mountainous islands, islets and rocks, that lie scattered between the Bombay Island and the mainland of India. Its general location is Lat. 19° N. and Long. 72° 30' E.

The Harbour or the Estuary :

The northern end of the harbour is filled by Trombay with the small mosque of Pir Pav in its southern extremity, from which the land rises into a hill about 1000 feet in height. The harbour consists of a deep arm of the sea between the Bombay Island and the mainland. It is about twenty-one miles long and from four to six miles wide. The principal channel into the harbour lies between the Prongs Reef and the Thal Shoal and it is about two and a half miles wide. The approach is illuminated by the Lighthouses of the Kennery Isle some eleven miles south of the southernly point of Bombay (Colaba Point) and on the Prongs Reef about a mile south-west of the same point. The Kennery (Khanderi) Lighthouse is the chief guide to vessels entering the Bombay Harbour.

The harbour lies open to the southerly winds, but all the rest of it is land-locked. Thus it is fairly well protected from the monsoon winds. It has an excellent anchoring ground, accessible at all seasons and affording a safe anchorage during the rough monsoon. The harbour is open but so secure that for miles in various directions, the smallest boat may sail with safety. The harbour is about 36 feet deep at high-water and about 24 feet deep at low-water, and the bottom is generally consisting of mud (Blue Clay).

Rivers entering the Harbour :

The four chief creeks running into the mainland of India from the harbour are: the Thana, the Panvel or Ulva, the Karanja and the Dharamtar Creeks. 1. The Thana Creek (at the head of which is the Ulhas river which meets the Arabian Sea by the Bassein Creek) opens into the northern part of the harbour; it runs for about ten miles from the village of Trombay to Thana town and has a width of about two miles which gradually narrows as Thana is approached. 2. The Panvel or Ulva Creek, which is not so wide as the first, debauches into the middle of the Harbour immediately to the north of the Hog Island and extends, from the Ulva Bandar, inland for about ten miles to Panvel town on the river of that name. 3. The Karanja Creek, which is also not very wide, extends from Karanja village inland for about three miles. 4. The Dharamtar Creek or Nagothna Creek, at the head of which is the Amba river, extends from the Kansa Rock or Gull Islet eastward for about three miles to Revas Bandar whence it runs southward for about eight miles up to Dharamtar Bandar on the Amba river. The Patalganga and the Bhogeshwari or Pen rivers also empty their waters into the Dharamtar Creek, Map II.

Position of the Harbour :

The harbour runs in very deep, its shores are indented by numerous inlets and creeks and it contains several large islands, small islets, rocks and shoals; the principal being, The Kansa Rock or Gull Islet at the entrance of the Dharamtar Creek. The Karanja Island and the Uran (Mora) Island are now being silted up into one island; it consists of two hills—N.N.W. or Uran Hill about 990 feet high and the S.S.E. or Karanja Hill about 995 feet high. Butcher's Island about 70 feet high and four miles east of the Victoria Dock. Elephanta or Gharapuri Island, which is about 7 miles east of the Apollo Bandar, consists of two hills—the western about 400 feet high and the eastern about 550 feet high. Hog (Sheva

Nhava) Island is at the entrance of the Panvel or Ulva Creek. Outside the Harbour but within the Port limits about seven miles south of the Colaba Point lie the Hennery and Kennery Islands.

The Spring Tides in the harbour rise fourteen and a half feet except on extraordinary occasions when the rise is as much as eighteen feet; while the Neap Tides rise about eleven feet. From March to September the day-tides are higher than the night tides, and vice-versa from September to March, the difference being greatest during June and July.

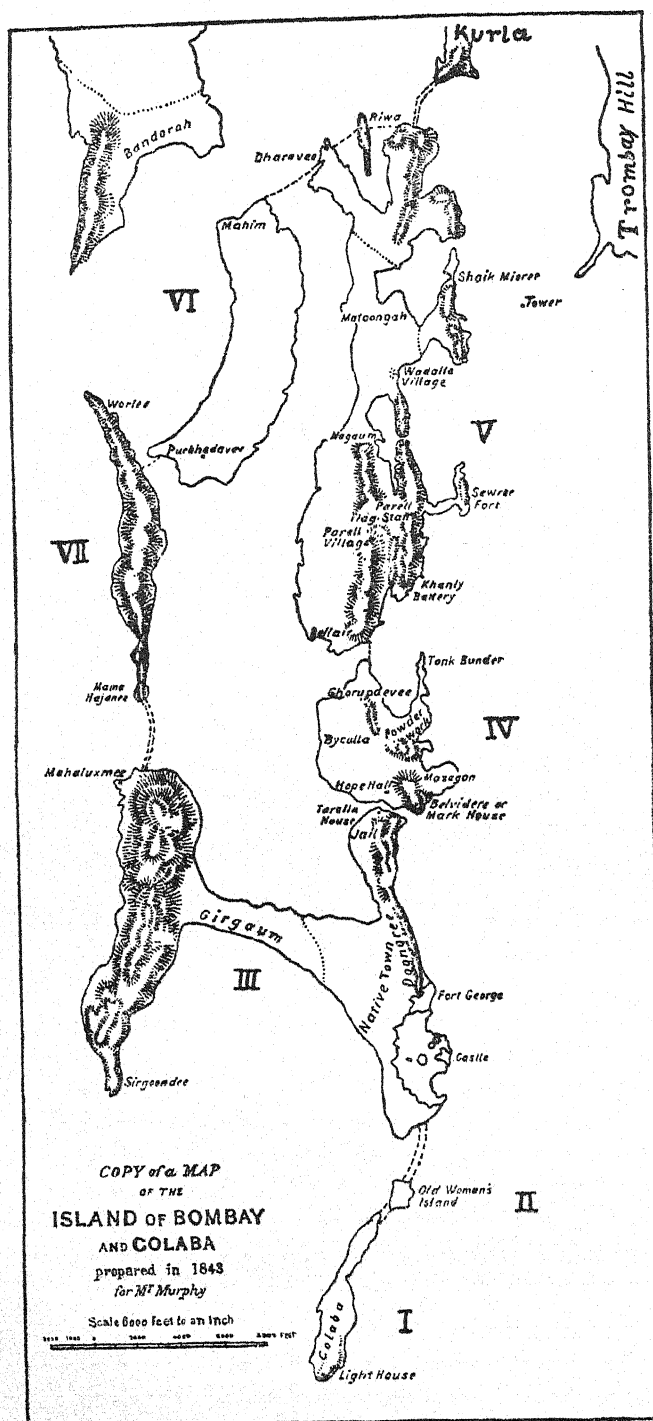
Configuration of the Present Island :

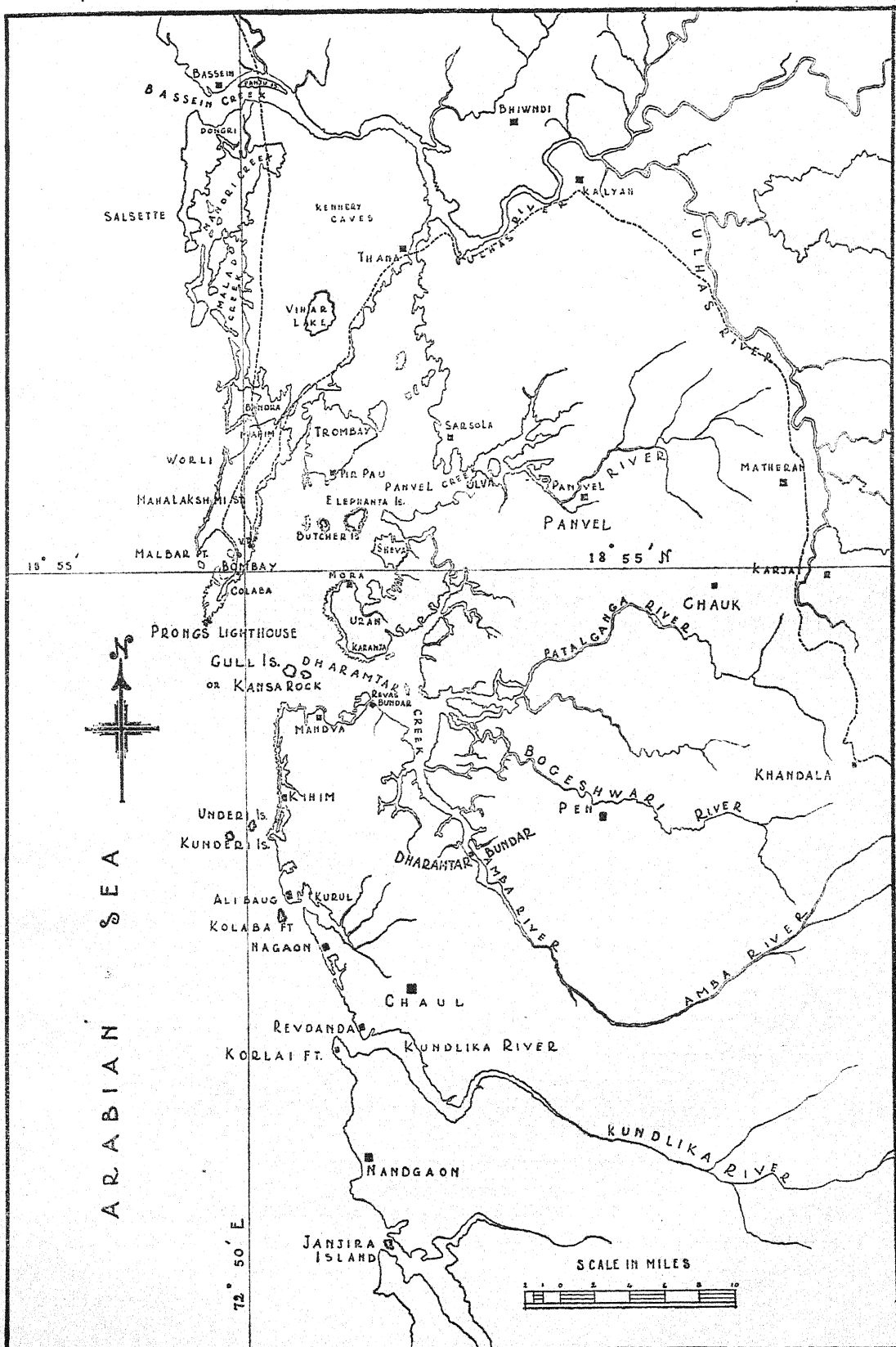
The shape of the present Bombay Island as a single landmass is trapezoidal to some extent, having its long axis nearly N. E.—S. W. ; its short parallel side is towards the sea and its long one is towards the mainland. The outer (or short) side is six miles long and the inner (or long) one is eleven miles long : both are bounded by ridges of hills precipitous towards the east while they slope gradually towards the west. Between these ridges, which are from two to four miles apart there is a level plain, the various localities of which were once called the "Flats" ; this central area was reclaimed after all the seven islands were united by embankments and causeways. At the short sides of the trapezoid (Mahim and Back Bay respectively) of the figure there are sandy beaches, which being above the level of the 'Flats' prevent the sea from overflowing them ; but on the outer side of the Island there is no beach because the whole is black, hard lava (andesite), probably extending a large distance into the sea; while on the inner side, which borders the harbour, there is an accumulation of silt deposited from the back-waters and the rivers which empty themselves into the estuary (harbour in which the Island of Bombay is situated).

Geological Structure :

At the beginning of the Tertiary Era (during the Eocene Period) the whole of Western India was devastated by such an outburst of volcanic fury as the world has seldom seen. There has probably never been in the history of the world so great an outpouring of lava as that which produced the series of rocks known as 'the Deccan Traps' to which those of the Bombay Island belong. The eruption took place from fissures and cracks such as those arise when the surface of the earth is in a state of tension and not from the more localised vents of volcanic craters (like Vesuvius) is evident from the almost perfect horizontality of the lava-sheets. The lavas were ejected from a number of orifices in the crust of the earth and a seething mass of molten rock-matter, from time to time, welled forth from below. Consequently, interstratified with them, are found strata of mud and ash containing fresh-water fossils. Of course, man had not yet appeared on the earth.

At the close of this Deccan Trap volcanic activity (about Oligocene Period) there might have occurred a great fault out at sea parallel to the west (Malabar) coast of India and the dry land which stretched westward into the Arabian Sea depressed, and at the same time the existing ridge of the Western Ghats might have broken up into several rock islands (e.g. islands of Bombay) now lying off the western coast of Peninsular India.





Stratigraphy :

Geologically the Island appears to consist of a conformable series of the Deccan Trap lava flows intercalated with the freshwater sedimentary beds. The general dip of the rocks is 10° to 15° towards the west, and the general strike is N. 10° E. to S. 10° W. This dip, which has given to the rocks of Bombay a ridge-like appearance, is, most probably, due to the disturbance after the consolidation of the highest Deccan Trap lava flows. The rocks are well seen in the hills of the western and eastern ridges, while the central plain, 'the Flats', is covered with recent alluvial deposits.

But even after these Deccan lava flows were cooled and solidified into hard rock, volcanic matter still broke forth at intervals in the Island. For we find at several places in the Island, especially at Sion, Sewri, Bhandarwara as well as at Jogeshwari and at the hill in which are excavated the Kanheri Caves in Salsette, and even at the bottom of the harbour masses of volcanic ash and breccia embedding fragments of the older volcanic and freshwater rocks torn off in the later eruptions which have broken through the strata of volcanic lavas and freshwater beds alike. During this period there were *three local* effusions of lava that penetrated between the sedimentary beds underlying the highest lava flow and the basement flow of the Island. These effusions are termed "*secondary-effusions*" to distinguish them from the primary flows. It appears that these *secondary-effusions* must have taken place during the foundering of the land, which extended towards the west of the present coastline of the Peninsula, soon after the highest Deccan lava flows had consolidated.

Different Types of Rocks :

The various rock formations found in the Bombay Island are divided into *four* periods, which are still open to question. The third period is again sub-divided into *four* effusions : the first being the last of the main Deccan lava flows (the highest in the series); while (a) second, (b) third, and (c) fourth, all being *secondary* effusions.

The *First* period or the earliest as far as Bombay is concerned was one of the later volcanic effusions of the Deccan lava flows (probably the last but one) which forms the basis (substratum) of the Island.

The *Second* period was a period of quiescence during which the freshwater, lacustrine strata were deposited. To this period belongs the well-known fresh-water formations of Bombay, which are the youngest among the inter-trappean sedimentary beds. They are the oldest sedimentary rocks exposed on the Island. It is possible that the lacustrine fresh-water deposit originally extended all over the Island of Bombay and further. Its present position in some localities appears to be under the overlying highest lava flow of the series and resting on the amygdaloidal basalt, which is a subsequent *secondary-effusion* of the nature of an intrusive sheet (a sill). The carbonaceous shale, with impressions of frogs can still be seen on the eastern side and at the foot of the Worli Hill below the thick mass of *moorum* and trap. The bodies of these frogs have evidently been deposited near the spot where they died, as the whole skeleton is often found perfect. In some cases the skeleton appears to have been dragged along the surface of the shale in which it is entombed, and probably this might have been by the wind. Tortoises were collected some years

back in the thin stratum of this lacustrine formation, which was then exposed in the scarp of blue-black trap at the foot of the Nowrojee Hill (Mazagaon), which no longer exists. These small-sized frogs have their nearest allies in some of the living frogs found in Australia.

The *Third* period was the period of the last volcanic effusion of the Deccan Trap lava flows forming the highest and, therefore, youngest lava beds in the series. After this there were *three minor and local effusions* in the Island, which very probably, are responsible for the present topography of the Island. This highest flow caps the main ridges in Bombay and was, probably, continuous all over the Island; and it also overflowed the then plain of Bombay having fresh-water lakes and swamps. The flow then must have been horizontal all along; and its westward dip must have been imposed upon it later on by those subsequent *secondary-effusions*.

(a) The "*secondary-effusion*", subsequently coming up under this main flow (the highest lava flow of the Deccan Trap) and not finding a ready outlet forced itself, forming a sill ('amygdaloidal basalt' and 'greenstone') between the basement lava bed and the fresh-water strata, underlying the highest lava flow, intercalating and breaking them up. This effusion apparently could not burst through the overlying highest lava flow, and was, most probably, responsible for raising up the longitudinal ridges, bordering the eastern and western sides of the Island. In these rocks, especially amygdaloidal basalt, beautiful crystals of several varieties of zeolite, calcite and quartz are found.

(b) The next "*secondary-effusion*" which is termed as 'Volcanic Breccia' took place after the preceding effusion which consolidated into the amygdaloidal basalt and greenstone, and is proved by the presence of the fragments of the previous effusion as well as those of the fresh-water strata in this rock. It is of wide extent, composing the plain and chain of small hills which bound the north-eastern part of the Island. The volcanic breccia of Sion points to the existence of a volcanic vent at no very great distance from where it is found. In Bombay, probably, there are places, which doubtless were the foci of volcanic eruptions later than those which formed the highest Deccan Trap flows. These, marking weak points in the earth's crust, may also have been vents for the earlier eruptions, and may now be lying beneath the waters of the harbour and the sea outside.

(c) Lastly, there is a record of the third and the last *secondary-effusion* after that of the Volcanic Ash and Breccia. The occurrence of this was proved by the existence of 'Dyke-like Volcanic Breccia' through the volcanic ash and breccia beds. These dyke-like masses were rather rare, being noticed in restricted places in the north-eastern part of the Island.

A peculiar jet black rock that constitutes Antop Hill is termed Lydian stone. Unless very closely examined the rock may be mistaken for the lava flow (andesite) of Malabar Hill. A very careful examination of hand-specimens discloses characters of a sedimentary rock, baked and hardened.

The *Fourth* period (or the last) was the one when all volcanic activity had stopped for ever, and the deposition of estuarine-clay and marine-sand began in the area; this seems to belong to, probably, the newer-Pliocene period. After the partial depression, this process of deposition started in some areas which lowered down below

the sea-level. The strata, from the lowest, are composed chiefly of, (1) the Blue Clay (Submerged and Reclaimed Silt), a stiff plastic deposit of clay containing nodular limestone, *kankar*. It fills up the central or lagoonal depression, the Flats of the Island. Below this Blue Clay is a layer of loam (Brown Clay) Older or Lower Alluvium resting upon the Trap or on its weathered surface. Above it comes a stratum of (2) Shell Concrete (raised Sea Beaches); it is the marine sand composed wholly of sea shells, that lived below the low-water mark and corals, and cemented together by calcium carbonate. In places, it is caked together into compact masses to which the name has been given of 'Littoral Concrete'. It is chiefly found on the northern (Mahim) and southern (Back Bay) sides of the Island. Lastly over this comes (3) the Upper Alluvium (Lagoon Formation): a recent formation some ten feet above sea-level. It is met with all over the 'Flats' in the centre, and salt-pans on the eastern side of the Island.

Prehistoric Forests :

During 1877 while the excavations for Prince's Dock were being made, the remains of what was evidently a submerged forest, about 32 feet below the high-water mark, were found. In 1910 during the construction of Alexandra Dock, fresh discoveries of a submerged forest were made; the soil in which the trees were found rooted was at the depth of 40 feet below high-water mark. Some trees were still rooted in the soil, which was a shallow band of *brownish* earth, apparently identical with that which had been seen to exist at Byculia; this soil appeared immediately to underlie the blue estuarine clay in which the trees were buried and to overlie the trap rock. Thus it is apparent that the Island, subsequent to cessation of the volcanic activity, has undergone a series of subsidences and upheavals.

North-South Faulting across the Island :

Within a distance of about four miles east to west across the Island there is an area of elevation, proved by the existence in the centre of the Island of a sea-beach (12 feet above high-water mark) called Phipps Oart, near which no sea now comes, and eastward in close proximity there is an area of recent subsidence—Prince's Dock and Alexandra Dock—proved by the discovery of a submerged forest. Sir Cyril Fox after considering this fact as well as the relative displacement of rocks on each side of the Island, concluded the existence of a north-south line of faulting (strike-fault) down the middle of the Island; it is also possible that the fresh-water beds exposed on each side of the Island may (probably) not be identical.

Upheaval and Subsidence :

After the Deccan Trap volcanic activity had piled up the hills on the fresh-water swamps on the mainland and these hills had by subsidence of the western coast of India broken off the mainland and cast into the sea as islands and had there remained undisturbed long enough to allow the deposit of the silt which now forms the stratum (Brown Earth) on which lies the Blue Clay, there came an *upheaval* that raised the greater part of the islands above high-water mark and exposed them to the action of the weather. So the lower alluvium (Brown Earth) had originally been a marine deposit, blue clay or silt most probably, which on being elevated and long exposed to the air and rain had acquired the peculiar appearance; it is nearly devoid of organic remains. This brown earth must have been allowed there to rest undisturbed

for a time sufficient to allow the growth of the trees (*Acacia Catachu*) known as *khair* trees, of the submerged forest found during the excavations of Prince's Dock and Alexandra Dock. This Brown Earth was found at a spot in Byculla 20 feet above the level of the sea, forming a layer below the Blue Clay that underlies the Littoral Concrete.

Then followed a *subsidence* sufficient to allow the trees being completely covered by the muddy silt of the harbour. The *khair* jungle is now found to flourish on the lower spurs of the Western Ghats at a considerable elevation above the sea. This subsidence brought and kept the entire layer of the Brown Earth and the forest below the level of high-tide mark long enough to allow the deposit of the mud (Blue Clay) of tidal creeks and the growth of mangrove forests. This clay must have been deposited when Bombay was a group of islands separated by tidal creeks. It contains numerous roots of mangrove bushes, bored by a species of *Teredo* (mollusca) showing that at the time the mangroves grew, the soil (Blue Clay) was a muddy salt-marsh, at half-tide mark. Then again the land began to sink down, till what had been salt-marsh, became deep sea, and the mangrove-bearing beds must have sunk so as to allow the sea to wash over them; and on the former estuarine clay (Blue Clay) was deposited the shelly sand of the 'Littoral-Concrete'.

Then came another change, an *upheaval* this time; and Brown Earth, Blue Clay and Littoral Concrete were together pushed up above the level of the highest tide, which brought matters into pretty nearly their present position. This last upheaval that brought the shelly sand of the ocean's floor to the surface of the dry land must have occurred in 'recent times', because the shells of the 'Littoral Concrete' are such as we find on our shores today. This change in the level probably pushed the 'Flats' up considerably higher than they are now, and possibly connected all the rocky islets in one.

Then another slow *subsidence* took place forming seven islands of the historic times.

If it is probable that this subsidence is still continuing then we (Bombaites), appear to be on the way to being slowly submerged and perhaps man is trying to aid the efforts of nature in this direction by cutting down our hills. On the other hand, if the waters around the Island are not being deepened by a subsidence of their floor, the Estuary (Harbour) and ultimately the Island are in danger of being silted up by mud and sand if the Island is not lifted up bodily by another upheaval. In either event farewell to the greatness as the most beautiful and safe natural harbour and port of *Urbs Prima in Indis*. The main external interest of the whole subject is that the existence of modern Bombay Island is due to the forgotten subsidence of the basalt (the Deccan Trap) floor of the land.*

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CATTLE WEALTH AND MILK PRODUCTION IN GUJARAT

By

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1. Gujarat has two very valuable breeds of cattle—one, the well-known breed of Kankrej cattle belonging to the Kankrej tract of North Gujarat, and the other, the well known breed of Gir cattle of Kathiawar. Both these breeds supply the bullock need for farm work in Gujarat. Besides this the bullocks from Sind and Rajputana also find their way into Gujarat.

2. As far as milk supply is concerned Gir cow is the only cow as a milk producer in Kathiawar. It is a very tame animal. Kathiawar and other places in B. P. and South India depend on Gir breed for their cows' milk. Kankrej cows are also kept in cities like Ahmedabad for milk production but the breed is chiefly bred for supplying bullocks for the whole of Gujarat except Kathiawar.

Besides the two types of cows, Gujarat has three important breeds of buffaloes which supply milk and dairy products to Gujarat and Bombay. Surti buffalo is kept and bred in Kaira district and Baroda division though it extends to Ahmedabad, Broach, Panchmahal, Surat and Bombay City. It is a small animal and well looked after. The second important breed of buffalo is the Mehsana buffalo which is a cross between a Surti and Murrah buffalo but the breed is more or less fixed and is a medium sized animal and a good milker. The breed is kept and bred chiefly in Mehsana tract of Baroda state and adjoining British areas. The third important breed of buffalo is the Jaffrabadi buffalo specially kept in Kathiawar. It is a huge animal with good yield of milk.

* Adapted from the Presidential Address, the Section of Geology and Geography of the Thirty-first Indian Science Congress, Session at Delhi, January, 1944.

3. The following statement shows the number of cows, buffalo cows, bulls and bullocks for different parts of Gujarat including states :—

1934-1935

		Dra't cattle bulls and bullocks	Adult milch animals	
			Cows	Buffalces.
Ahmedabad 34-35	...	131722	102835	113331
Broach 29-30	...	60844	11222	32994
Panchmahals 29-30	...	143636	82872	47774
Kaira ...	...	116783	25978	128868
Surat 34-35	...	120632	70065	64226
Idar ...	...	51742	63532	30281
Baroda State	...	420978	209892	333882
Bhavnagar	...	84416	49159	52407
Cutch ...	...	43443	55297	23034
Gondal ...	...	35022	47546	13104
Junagadh ...	...	123761	71625	66557
Jamnagar	...	105078	68608	37831
Other States in Kathiawar	...	415395	376971	222713
Total ...		1850452	1235602	1167002

4. Value of Cows and Young stock :

The total number of cows and buffalo-cows come to about 24 lakhs. Even if the cows and buffaloes are valued at an average flat rate of Rs. 200 each the total value will come to about 48 crores of rupees. Besides this there are about 20 lakhs of young stock which if valued at an average rate of Rs. 50 each will come to 10 crores of rupees. Thus the breeding stock and young stock come to 58 crores of rupees.

5. Value of Dairy Products :

Assuming that the average yield of a buffalo is 2000 lbs. of milk a year and of a cow is 1000 Lbs. of milk a year the total milk production of the cows and buffaloes will come to enormous quantity. Assuming that half the cows and buffaloes are annually in milk we get 12 lakhs of animals in milk and the yield of milk will come to 225 lakhs of maunds (Bengal) of milk a year and valuing now at the rate of Rs. 6 a maund will come to 135 lakhs of rupees a year. This shows the huge value of dairy produce showing the importance of the dairy cattle for the production of essential food.

6. Bullock Supply :

The total number of bulls and bullocks come to 18 lakhs. Assuming that the bullock is fit to work for 10 years about 10% of the bullocks i.e. 1.8 lakhs of bullocks will have to be replaced every year.

Now considering the population of cows as 12 lakhs and assuming that only 80% breed we will get 9.6 lakhs breeding cows. The cows ordinarily breed once in two years so we will get 4.8 lakhs of cows breeding and giving 50% male and 50% female calves. So we will have 24 lakhs of male calves and taking 60% as survivors when grown up into bullocks we will have 1.4 lakhs of new bullocks every year to replace the old ones, leaving about 40,000 bullocks a year as deficit, on the assumption

that no animal goes out of Gujarat, and that there is no reduction in the number of cows due to famine conditions or sale for slaughter. The detailed statistics shows that the cattle breeding tracts seem to be self-sufficient, but tracts like Kaira and Baroda division are short of cows for breeding bullocks. A good number of cattle in Panchmahals and Surat are smaller and are not of much use for supplying the required bullocks. Thus the total deficit of bullocks for the whole of Gujarat is likely to be a great deal more than 40,000 a year. Moreover, the recent famines in Kathiawar and the high prices of cattle might have resulted into reduction of cow population particularly in Gir breed. This shows the great urgency of improving the cattle of Gujarat.

7. *Improvement of Cattle :*

The Bombay Government and the Agricultural Institute Anand are extending the breeding of Kankrej cattle both for milk and draft purposes in Gujarat. The breeding of cattle and their improvement is a slow and long time job and requires persistent continuous efforts to make improvements. The work requires to be extended on a sufficiently large scale considering the number of twelve lakhs of cows to be improved.

However, as far as Gir breed is concerned there is no organised attempt to improve the breed on scientific lines. Unfortunately, Gir cattle are scattered over a number of states in Kathiawar and no single state is able to put in time and money required to achieve the desired results. Due to serious recent scarcities, the breed has suffered in number and quality and unless early steps are taken on an organised basis by the cooperation of the States having the Gir cattle, to start a number of cattle-breeding farms to improve Gir cattle on scientific lines there is a danger of the breed being extinct. The States alone cannot tackle the problem successfully and the public should also cooperate for the improvement and multiplication of Gir Cattle.

8. *Milk Supply for our Cities :*

Now coming to the question of milk supply I may say that very little work has been done for the improvement of milch buffalo. Absolutely nothing has been done for the collection, processing and transport of milk to Bombay City. On the contrary in most of our cities a system of "stall feeding cow-keeping" has come into practice and the milch cattle are maintained for 6 to 8 months and when dry are disposed off for slaughter. Young stock too is not reared and thus the best animals from the breeding tracts are drafted into Bombay to be ultimately lost to the trade. This is going on for years and the result is seen in the rapid deterioration of milch cattle and high cost of milk.

The war has made matters worse due to more demand for milch cattle and meat and high prices of cattle and dairy produce. As a result of high prices and scarcity of dairy produce the Province of the Punjab, Mehsana (Baroda State) Kaira and Ahmedabad districts are not allowing export of cattle to Bombay without control. The Punjab Government is demanding a legal agreement to maintain all dry cattle as long as they are useful for breeding and the Baroda State is considering how to regulate the export of cattle with a view to conserve their cattle wealth. However, the system is not well controlled to prevent the slaughter of all the useful animals as the dairy owners that do not mind selling for slaughter have not yet realised the great

urgency to save every useful buffalo for the future even though they are giving all sorts of paper agreements. The dry cattle get good prices for meat and the temptation is great and unless a strict effective control over every animal in the dairy is organised my fear is that it will be hoping against hope to get all our requirements of fresh cattle from outside.

The good useful cattle go to slaughter houses as a number is fixed irrespective of its suitability for breeding for milk even though the very dairy owners are clamouring for more cattle. It is also suspected that old and poor dry cattle sold by poorer gaolies are nominally sent for salvage to meet the death there by starvation or otherwise and best young dry cattle are sold for slaughter. Thus some dairy owners are reported to make out their claims for more imports. Unless the milk producers realise that every good animal must be saved and unless the Government have an effective control over every dry animal and extensive arrangements are made for salvage of cattle and regular rationing of fresh milch cattle is undertaken on the basis of effective salvage from one's own milking herd and not from buying any dry animals, I fear, Bombay will see the milk drying up.

The need to salvage every useful buffalo for the future supply of milk seems to have been mixed up with religion or politics and a large number of useful dry buffaloes are being slaughtered in Bombay. No educational propaganda is organised to explain to the dairy owners the extreme necessity of salvaging every available animal if the City of Bombay is to get the milk and the dairy owners are to continue their trade. Some of these dairy owners do not realise that the Punjab, Mehsana and other parts have realised to their bitter experience that uncontrolled supply of their best cattle to Bombay is wasteful and has affected seriously the economics of milk production in their tracts. Punjab insists upon a legal agreement not to slaughter any animal as long as she is fit to breed. However, my experience of the dairy owners is not very good and even though they agree to anything on paper to get permits to import cattle, when it comes to the carrying out of their agreement we find many loopholes. If things go on as at present I am afraid we shall neither get milk nor meat. Even the military authorities have realised that the hens must be saved to get eggs. I wish our Muslim friends and others in the dairy trade realise the fact that a live milch animal is good for 2 or 3 lactations more and is worth more in essential food as a producer of milk than as a producer of meat if it is slaughtered straight away. It is like killing the goose that lays a golden egg.

I am afraid it is not yet realised by certain district authorities that maintenance of dry cattle is helping to produce not only more food but more essential food and it is essential that they should come forward to make all the compact block of Government land that is now utilised for food crops available for the maintenance of dry stock. Maintenance of dry stock is not to be done only on grazing but it is more economic to grow food crops and feed cattle on grown fodder and the bye-product of food crops.

The strict control over salvage of dry stock and rationing of all milch cattle amongst those that strictly salvage their dry stocks and breed and feed them properly is most essential at the present moment if we are not to reduce our milk production to a very low figure for want of sufficient milch cattle. Bombay alone needs 50,000

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to 60,000 cattle in milk all the time which means Bombay needs 75,000 to 90,000 cattle a year in milk and barring 20% for old age and death, Bombay ought to see that 60,000 to 70,000 cattle are annually salvaged. It is likely that cost of proper salvage of dry stock is going to be much higher say Rs. 20/- to 25/- a month outside Bombay—a much higher figure than what the dairy owners are prepared to pay now. But in view of scarcity of cattle and high prices of cattle and cattle feeds and milk this is worth spending and unless the Dairy owners realise this, not only will they lose their business but they will create crisis by shortage of milk supply in near future. However this only concerns the present emergency problem of supply of milk to Bombay City.

If a long term question is to be considered in the light of the bitter experience of the present it is most essential that the milk supply of the city should be reorganised in such a way that the cattle can be improved to produce more milk at a lesser cost, and this is possible by shifting the milk production to the country side. In fact the northern Gujarat and Khandesh are now used for butter-making and ghee-making, a very wasteful thing to continue to do if we can organise the collection, processing and transport of milk from our country-side to our cities. Fluid milk trade always pays better price than butter or ghee trade and if proper educational propaganda is launched and effective organisation is set up to collect, process and transport milk in refrigerated vans, lot of milk can be brought to Bombay. This supply can be further increased by scientific development of fodder resources and breeding of better cattle, in course of time. This will stimulate the development of the dairy tract of Gujarat and Khandesh. Dairy industry will have far-reaching beneficial effects on the fertility of the land. In fact heavy feeding of cake and other concentrates will lead to enormous increase in the value of manure which in turn will increase the fertility of land. With proper introduction of new grasses or fodder crops coupled up with the improvement of milch cattle by scientific breeding, the milk production of Gujarat and Khandesh can be easily doubled up in 20 years' period. The city can get pure and cheaper milk and the agriculturists can get better price.

This requires all round development as under :—

1. Every village in the dairy tract must be linked up with the railway by good metalled road.
2. New irrigation development should be taken up even though the return from irrigation is low as it is going to lead to many indirect benefits such as improved fertility of land, better farming and all-round progress of the tract resulting into higher standard of living as a result of the introduction of intensive farming like Dairy Farming.
3. The railways should be persuaded to take up the development of milk trade by introducing refrigerator vans as a long term policy to improve their business.
4. Steps should be taken to improve Surti and Mehsana breeds of cattle and also to introduce and breed a suitable type of Delhi Buffalo to make milk cheaper.
5. A number of dairy farms must be encouraged to breed and maintain large number of dairy cattle probably on city sewage farms at Bombay and

Ahmedabad and in new or old irrigated tracts of Gujarat and Deccan to make Bombay Province self-sufficient in milch cattle to avoid repetition of the present plight.

6. Sugarcane farms should be compelled to combine dairy farming in the irrigated tracts to ensure cattle breeding, manure production and milk supply to Bombay City.
7. The tract from Bombay to Daman Road may be of great use for milk products if water supply can be improved by tanks or canals from the river and if the grassland is earmarked for dairy farming. Of course at present water is obtained from the wells but the supply is just sufficient for cattle and not for irrigation. If irrigation water can be made available by building the nals or the river or storage tanks, better crops, and very heavy yielding new grasses can be grown throughout the year to improve the milk supply.

9. *Control of diseases :*

The question of disease control will have to be solved in an organised manner. For the last twenty years or more the cultivator in the wet tract keeps large herds of useless cattle on free grazing only. The result is that the cattle suffers from malnutrition and diseases and they spread the diseases on the grazing land. Diseases will have to be eradicated by abolishing all grazing land. The grazing land in wet tract is trampled up and soil is washed down by heavy rains and provides very little fodder growth. It will be most desirable to protect these grazing areas by stopping all grazing in monsoon and allotting the land for milk production. Abolition of grazing and the compulsory preventive treatment of diseases will effectively control diseases.

This tract is open to sea and if well supplied with metalled roads and quick railway transport, electric power and if possible with irrigation tanks or canals, can assure Bombay a certain amount of milk supply within easy reach. However, a direct road connection by a road-bridge over Bassein is essential to provide alternative transport on break-downs in railways. One thing seems to be essential that the Dairy farms in wet tract must have their subfarms in the dry tract of Gujarat or Deccan to ensure cheap and effective rearing of young stock for the future.

10. *Researches on animal feeding :*

A great deal of scientific work is required to ascertain the value of various cattle feeds and system of feeding to adopt an economic method of feeding to suit different tracts and different breeds. Unfortunately, very little has been done so far in this matter. Recently, Anand Institution has made some beginning and this work requires extension.

11. *Extension of Veterinary Aid :*

The diseases of cattle take a heavy toll on the cattle wealth. Gujarat has the largest number of valuable cattle and it is absolutely essential to have a good efficient Veterinary College and Research Institute in the heart of Cattle and Dairy tract to study, appreciate and solve the local problems.

The vaccines are not available in time and on a sufficient scale and such an

Institute ought to manufacture the vaccine and store it for supply to the tract when needed.

A Veterinary dispensary and one or two Veterinary officers in a taluka is not at all sufficient to take preventive actions to control diseases and unless a local college is started it is feared the demand for such help in rural areas is unlikely to be met. I would therefore suggest that our wealthy industrialists should come forward to donate a good sum to start a Veterinary College and Research Institute right in the heart of dairy tract in Gujarat. Gujarati people know how to organise trades and industries and make money. They are also keen to get pure milk and dairy products but all know that it is difficult to get pure milk anywhere even at high prices. Similarly pure ghee or butter is scarce, and it is high time that our rich people should think of doing something to develop an industry that gives them most essential food, otherwise wealth will not be of much use if they and their children are to be starved of the essential elements in food.

The present dairy trade requires overhauling and great deal of money and scientific knowledge will have to be devoted before we can cheapen milk. The public seems to have an idea that the dairy-man is profiteering, but I can assure all that an honest dairy-man cannot make much profit unless he adulterates his milk. If the public will insist upon getting cheap milk without any sacrifice on their own part the milk will get adulterated more and more as there is no effective control on the purity of milk.

I would therefore stress that the milk production business is very complicated and a troublesome one. There is no scientific knowledge behind it. There is no organisation to buy best cattle, no arrangements to breed and improve cattle, no efforts are made to organise the supply of proper feeds and nothing is done to safeguard the cleanliness of milk and above all the finances are poor and the consumer has to pay for all these defects in the trade and it is absolutely essential that the educated public should wake up to do something to put the business of milk production on sounder and permanent footing as has been done with other industries. Milk production should not be scared away by fancy estimates on the cost of milk production. Nowhere in the world mere paper estimates on any trade are taken as basis for control of prices. If the milk production is not to be reduced to nothing independent studies of facts and figures of cost of production by competent persons over a year or two must be the basis of control of prices, any light hearted playing with the subject will result into drying up our milk supply ; milk is a perishable article and cannot be dealt with as food grains.

PISCICULTURE AS A MEANS OF COMBATING WEED NUISANCE IN TANKS WITH SPECIAL REFERENCE TO DABHOI TANK

By

DR. S. T. MOSES

Introduction

In our country, all villages and towns have their tanks or other water reservoirs, water from which though in many cases potable and used as such, is generally used if not in agriculture, for domestic purposes, washing and bathing, for humans and even cattle. Many of these tanks are connected with temples. Nowhere as here are

seen striking instances of neglect, which in the past, was not only in the department of the maintenance of bunds, water connections etc., but also in keeping the water presentable with the fauna and flora therein healthy. Of late tanks are receiving better attention, due more to the recent revival of interest in pisciculture, considered essential as a solver directly of the problem of food and indirectly of that of health. While aquatic flora are useful, whether as food for fish, cultivated or grown wild, or in maintaining the correct concentration of Oxygen in solution in water, necessary for the growth of fish and other animal life there, their role is occasionally discreditable as for instance in the Dabhoi tank where they are responsible for the annual spoilage of water and recurring nuisance of smell. This paper embodies the results of an investigation into such cases with suggestions of remedies, and the writer here records his indebtedness to his assistant Mr. T. V. R. Pillay, B.Sc for help received in this connection.

Our Flora

In Gujarat, our tanks, whether permanent or temporary—the latter naturally dry up after the effects of the monsoon are over—all support rich vegetation both algal and higher forms. Curiously enough algal growth here seems most abundant near about the close of the rainy season. The different forms of aquatic flora commonly met with here are listed below :—

Algae :

Protophyceae :

Microcystis
Oscillatoria

Desmidiaceae :

Desmidium
Cosmarium

Characeae : 'Stone wort'

Nitella.

Pteridophytes :

Salviniaceae :

Salvinia.

Monocotyledons.

Naiadaceae :

Potamogeton. 'Pond weed'
Jalapupedi.
Naias.

Hydrocharideae :

Vallisneria. 'Eel or Tape grass'.
Jalasarpollian.
Hydrilla.
Otelia.

Lemnaceae :

Lemna the Duck Weed.
Wolffia the Rootless Duck weed.
Pistia 'Water Lettuce' Jalak-humbi.

Dicotyledons :

Nymphaeaceae :

Nymphaea. Poyna
Nelumbium. Kamal

Onagariaceae :

Trapa 'Waterchestnut' Shen
oda (cultivated)

Gentianaceae :

Lemnanthemum. Kumudhini

Convolvulaceae :

Ipomaea Nalivel

Ceratophyllaceae :

Ceratophyllum 'Horn Wort'
Lila.

Water Blooms

Many tanks especially those attached to temples have their water usually dis-

coloured green. This condition persists through the whole year and apparently is an exhibition of the phenomenon of Permanent Water Blooms.' The green colouration has on microscopic investigation been found to be due to the algae *Microcystis* generally singly or at times associated with other planktonic forms like *Oscillatoria*. The blooms growth of which depends on temperature, light etc., render the water unwholesome. Often when the rainy season sets in and the sky is continuously cloudy, these algae which even when alive pervade a distasteful smell, begin to die and float up in huge quantities rendering the entire atmosphere malodorous. Apart from producing the objectionable smell these algae are responsible for a lot of suspended colloidal matter, which render the water unfit for domestic use.

Weed Nuisance

Tender plants such as *Hydrilla*, *Vallisneria*, *Lemna*, *Wolffia*, *Ipomaea*, *Naias*, *Potamogeton* and *Ceratophyllum* render useful service as food for fish and more in aerating the water. The latter function the waterweeds and chlorophyll-bearing algae are able to discharge under the influence of sun light. It may be that the surface vegetation is useful affording shade and shelter for fish but the danger is always there that if neglected it would form dense growth especially when the coarse plants are hardy ones like *Eichhornia* the Water Hyacinth and this thick screen upsets the ecological balance of the tank and gradually by preventing the penetration of light to deeper layers kills the submerged vegetation which then rots at the bottom and renders the tank unhealthy. The putrefaction of the organic debris at the bottom not only uses up all the Oxygen dissolved in the water but produces Carbon-dioxide and other poisons like Marsh gas, Ammonia and Sulphuretted Hydrogen. While normally the loss of Oxygen may be made good by the absorption of air at the surface and through the photosynthetic action of the green plants, under unfavourable conditions especially during hot weather the process of putrefaction is more rapid and marked, so much so that the water is rendered fatal to life including fish. As the tanks begin to show a decrease in the water level the algae and weeds begin to die and rot and the water becomes ill-smelling and foully unfit for use by the villagers and their cattle.

Some current methods of combating the nuisance

Many are the methods used in this fight and while most are 'empirical' as against the few which are 'scientific', results in both the types do not seem to be guaranteed. The methods employed are either mechanical or chemical.

The usual mechanical device is to stir up the water by dragging a net through the tank. If deep, men swim about and poke everywhere with poles. This results in a great movement of water which apparently aids oxygenation and the dispersal or removal of poisons. While netting men are engaged in not only removing floating dead weeds but also of a portion of the organic debris at the bottom.

In the case of the Water Hyacinth, which has been declared as pest in a special 'Act' all over British India and the States, mass eradication by manual collection is everywhere done but the costly effort appears futile. Experiments of Chemists have however revealed the possibilities of commercially utilising the pest as the weed, after being airdried, gassed or otherwise treated yields furfural, Potassium chloride, Alcohol, Acetic acid, Acetone besides compressed fibre. A study of the plant's life-

history and ecology has made a Botanist declare that to prevent recurrence through seeds the tanks should be kept full so that the seeds do not get a chance to germinate. He is of opinion that if the plants could only be cleared before the setting of the seeds, recurrence through seeds will certainly be lessened.

In the case of *Potamogeton*, which has been found to have 2 seasons of growth in a year, a Botanist who found the growth periods correlated to salinity, thinks eradication possible by increased salinity. An Engineering expert suggests eradication by drying up in the summer the canals where the weeds are a nuisance. Often laboratory or control experiments are successful but the results are never the same in natural or large scale operations. In 1920 some experiments in the Madras Powder Factory Fish farm were conducted by the writer under instructions from Mr. Hornell and it was established that increased salinity killed the water Hyacinth. Later however it was found that the Hyacinth not only survived additions of salt to its habitat but actually thrived even in salt water !

Many chemical substances are used to eradicate weeds but there seem to be difficulties. Copper salts in suitable concentrations (0.18%) are effective against the Water Hyacinth but all aquatic fauna like fish are also affected. One authority however found that the concentration of copper sulphate to kill fish was higher than that for algae. Sodium arsenite is also used to destroy algal growth but it renders the water brownish and so less transparent. Potassium permanganate the commonly used Oxidising Agent is a good remedy when the water is foul, the quantity to be used being 1/8 grain per gallon. Quick Lime (10-12 parts in a million) is used the result being that the water thus treated loses or at least has its acidity reduced by the absorption of Carbon-dioxide and other organic acids. Ordinary washing soda, crude Potassium carbonate and even wood ash are useful in reducing acidity. Some of the Chemicals used in the Dabhoi tank but without any perceptible change for the better were Lime, Paris Green and Crude Oil.

An indigenous device in Gujarat

Usually in Gujarat what the villager does when his tank smells as a result of weed nuisance is to collect a number of twigs of the plant Kerdo (identified to be *Capparis decidua*) ; these are dried partially and then thrown into the tank. As the Kerdo shoots begin to rot, these with the algae and weeds of the tank, decomposed and decomposing, sink and as the whole mass of organic debris in the surface of the water, settles down at the bottom, the water becomes clear once again and is fit for use.

Pisciculture

To mitigate the weed nuisance, fish culture is a clean and profitable method to be adopted. While fish is important as food for man—a fact not yet well realised—there is a food chain from the fish downwards to various small animals which in their turn live on the algae. Algae and waterweeds, even in cases where the fish do not feed on them, are of indirect service, so much so that it is essential for the pisciculturist to know all about the ecology of the floral life in the tank if his fishery work is to be a success. Etroplus the Pearlsport, a Madras fish introduced into the Timbi tank where the shooting and fishing privileges are restricted only to members of the Ruling Family, does not seem to feed at all on *Lemna*, *Pistia* and *Hydrilla* ; it feeds avidly

on *Otelia*. The *Labeo* group of *Carpus* and *Catla*, fish which are largely used for stocking purposes feed on floating aquatics *Lemna* and *Wolffia*; *Potamogeton* is another aquatic plant these carps are very fond of. Smaller Carps particularly *Cirrhina* feed very much on dead and decaying organic matter at the bottom of the tank and so are useful scavengers. The *Dabhoi* tank even under its present conditions is not devoid of life. During our fishing excursions we found the Silverfish *Chal*, *Labeo calbasu*, *Nagri*, *Amblypharyngodon* *Melwa* and small *Barbus*, *Dhebri* besides young prawns, *Daphnids*, *Cyclops*, *Nauplius*, *Waterboatmen* and other insects, small shellfish and worms. The introduction of larger numbers of *Labeo* and *Catla* and *Cirrhina* will check the nuisance and in course of time prevent the recurrence of the nuisance.

Duck-keeping

One easy method of keeping down weeds is to introduce domestic Ducks to the tank. In the case of the *Dabhoi* tank, *Forbes* who lived on its banks in the *Durbar* or the Governor's Mansion—now a school—from 1780-83 speaks of 'pelicans, wild ducks, adjutant birds and a variety of waterfowl animating the beautiful lake adorned by *Nymphaea* and many aquatic plants.' In another place he mentions spoonbills also. Now no birds use the tank and if domestic ducks quite a good number are allowed in the tank the weeds and diatoms will be removed quickly and efficiently. Even when the tanks are stocked with useful fish as suggested, there is no danger from the ducks for they can neither do much harm to them nor rob them of their food.

The Dabhoi tank

Dabhoi the ancient *Darbhavathi* is a town of great archæological interest in the *Baroda* State. The tank situated in the middle of the town is about 40 *highas* in area and holds water right through the year; it is used by the people for purposes of washing mostly. Almost all round the tank is surrounded by a flight of steps with many small temples scattered about. During the monsoon the tank receives a fresh supply of rain water from the bund tank with masonry walls located outside the city walls by a feeding canal and water supply is regulated by a stone aqueduct. Now though the tank retains much of the old beauty for which it was famous, all its magnificence is gone. Till a few years ago there was a luxuriant growth of *Nali* and *Thina-pathi*, but since their removal as an antimosquito measure duckweed trouble started and the nuisance presents an embarrassing problem to the municipal authorities. Large quantities of the Duckweed are washed along the banks by the wind and here with putrefaction add to the smells. The Municipality has engaged four coolies and they remove the weeds daily and bury them. Actually however they are able only to remove the floating mass from the steps and leave a few masses here, and a few there on the banks and dump a portion in a few barrels set up for the purpose. Lime, crude oil and Paris green used at the suggestion of the Sanitary authorities have not affected the nuisance which continues and it remains to be seen if fish culture, and stocking the tanks with *Labeos*, *Catla* and *Cirrhina* and Pearl spot and duck-keeping will do good.

THE HELIACAL RISINGS AND SETTINGS OF HEAVENLY BODIES

By

HARIHAR P. BHATT and BHOGILAL K. PATWA

The heliacal setting of a heavenly body is its disappearance when it comes near enough to the sun and its heliacal rising is its appearance again when it is far enough from the sun. These observations are to be understood as made by the naked eye, that is, without the help of a telescope. Heavenly bodies, except those which are very near the sun, can be seen and studied with modern powerful telescopes even by day. It is therefore natural that modern western astronomy is not interested in this subject and so it gives no methods for the calculations of these phenomena.

The first telescope was constructed by Galileo in 1610 A. D. But for centuries before this date heavenly bodies were studied by the ancients. It is, however, strange that no ancients, except the Indians, have given methods for the calculations of these phenomena. This can be partly accounted for by the high latitudes in which other ancients lived and the consequent indistinct atmosphere which made it difficult to observe these phenomena properly. On the other hand, besides the clear sky of India, the religious bar against ceremonies like marriage during the period of the heliacal setting of Venus and Jupiter, made it necessary to observe carefully these phenomena in the case of these two planets. Heliacal risings and settings of other planets do not seem to have any such religious importance. The calculations have probably developed through mere scientific interest. We are, however, not sure on this point, as we are not students of Dharmashastras.

The calculations of these phenomena are not simply astronomical problems. They depend to a great degree on the clearness or otherwise of the sky and on the power of the sight of the observer. The latter may be disposed of by taking the average untrained eye-sight as our standard but the former is simply impossible, as the science of meteorology has not yet developed enough to predict the weather more than a few hours in advance.

Again the astronomical portion of the problem includes certain matters about which we have very little knowledge, such as the least angular distance, from the sun, of a heavenly body of given brilliancy, for which it will be visible to have naked eye. The methods given in our old books give results which differ widely from experience and there are no records of observations on which we can base new methods.

The method given in our ancient books gives what are called Kalamshas (कालंश) for each planet, that is, the ascensional difference between the planet and the sun at the time of the phenomena. This is, as the name indicates, the difference in times (of rising or setting) and should therefore be the difference in Right Ascensions, but, in practice, it is taken as differences in Longitudes. But even if the ascensional difference is taken, the method is faulty, as will be seen from what follows.

The duration of morning and evening twilights extends from sunrise or sunset to the time when the sun is about 17° below the horizon. It has been observed that at the times of helical risings and settings planets' altitudes at sunrise and sunset are not greater than 17° . This shows that these phenomena occur during

twilight periods. Now owing to the sun's declination the twilight periods vary throughout the year. The maximum difference in India is about 24 minutes or 6° .

Again it is clear that, as the twilight depends on the depth of the sun below the horizon, the greatest deciding factor for these phenomena is the planets' altitude at sunrise or sunset, as the case may be.

The above factor, viz. the altitude, has been taken into account in their books by modern authors like Messrs. Ketkar, Daftari, G. S. Apte, Pawar, etc. There is, however, another factor which we cannot afford to neglect, if we aim at accuracy. This is the planet's brilliancy technically called its magnitude. The magnitudes of Venus and Mars vary largely from their mean values.

These phenomena depend on four factors :—(1) the distance between the planet and the sun, (2) the altitude of the planet at sunrise or sunset as the case may be, (3) The magnitude of the planet and (4) the clarity of the sky. Out of these four we now cancel the first as unnecessary, its effect being included in (2).

This much about the factors affecting these phenomena. The values of these factors are yet to be determined. This can be done only by actual observations and by preserving their records. But till these values are determined, predictions may be made in the almanacs from the mean values of these factors. The kalamshas given in our different ancient books vary slightly. From these fairly approximate values may be determined. They may be taken as temporary mean values of the altitudes. We do not know how modern authors like the late Mr. Ketkar have determined the values of altitudes. We have often calculated these phenomena from these books, compared them with actual observations and found that they do not agree satisfactorily. We do not undervalue the great labours of these learned men in this field. The only thing we mean is that it is necessary to work more in this direction.

The way lies in a sufficient number of careful observations and their records. As heliacal risings and settings of planets in a year are few in number, we propose the following. On account of the apparent motion of the sun in the ecliptic some stars near the ecliptic become visible and invisible every day. Out of these some may be selected whose magnitudes are nearly equal to those of different planets. These stars will give us values for different magnitudes of stars or planets.

The record should note the first and last moments of visibility in the case of rising and setting stars respectively, that is, the date, hour and minute of the first and last moments of invisibility. Secondly it should note the condition of the sky as regards its clarity in some such way : (1) Very clear, (2) fairly clear, (3) somewhat unclear and (4) very unclear. A little practice may enable the recorder to assign a rough percentage of clarity. These two records should be made immediately. The remaining factors, viz, the altitude and the magnitude of the planet can be calculated at any time afterwards by the help of astronomy.

Lastly we appeal to those who are interested in this matter to observe these phenomena and to record its date, time and the clarity of the sky. We intend to do the same and also to collect records of other observers, who will kindly send them to our address.* They are likely to be very useful in future to research workers in this field.

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MEDICAL SCIENCE IN ANCIENT GUJARAT*

By

D. K. SHASTRI

Due to the lack of a historical sense in our ancestors which is pointed out by scholars time and again, the works on ancient Indian medicine like works of any other branch of ancient Indian literature do not provide any details regarding the date and domicile of the authors thereof, and direct evidence to investigate these are virtually non-existent. The difficulties are a great deal enhanced when many of the medicinal works are unpublished or their manuscripts hardly available.

The decision of the geographical boundaries of Gujarāta in the past is also a moot point. For the purpose of this article, it will suffice to consider its present boundaries as a standard for the past.

The history of Gujarāta reveals utter neglect of literary activities upto the sixth century. Business and trade formed the essence of its life; and it has, to this day, preserved its reputation as a centre of trade. In those days, when everywhere in Āryāvarta, a living literature of the age was being produced, Gujarāta proffered nothing at the feet of the Goddess of Learning. It was only after the sixth century that it took a little interest in Sanskrit literature, even though, medicine continued to be neglected up to the twelfth century. Not a single work on the subject written in Gujarāta before that time is available at present; not that there were no physicians (*vaidya*) in Gujarāta, but their works, if at all they wrote any, are at present lost to us.

A stone-inscription¹ of King Aśoka refers to "hospitals (*cikitsā-sthāna*) for men and beasts, established by King Priyadarśī (Aśoka) in his own kingdom as also in Ceylone, Satitaputta and Keralaputta and to the storage of medicine, planting of medicinal herbs" etc. It may be that the king who established hospitals "in a remote dependency of the empire" may have extended his charity even to Saurāṣṭra (included in Aśoka's kingdom), for the existence of relations is evidenced from an inscription of King Rudradāman,² where the then Persian Viceroy of Aśoka, Rājā Tushāspā is mentioned as superintending the construction of channels from the lake Sudarśana. Thus, like the irrigation works, there were hospitals, too, somewhere in Gujarāta, which presuppose the existence of physicians. But the medical literature of the third century before Christ is represented merely by the *Caraka*, the *Suśruta* and the *Bheda*.

The above state of affairs remains unaltered in the days of the Kṣatrapas, the Guptas and the Valabhīs. In the sixth-seventh centuries, Sind gave three important works on medical literature, from the pen of Vagbhata, Tisata and Candrata whereas Mādhavakara, Vṛnda and Cakradatt in Bengal explored the regions of medical science in diverse ways between the eighth and eleventh centuries. But there is no name in Gujarāta except the one, Nāgārjuna, with an uncertain date and domicile, who did anything for the science.

* Based on the original Gujarati paper "ગુજરાતનું વૈદ્ય સાહિત્ય" published in the author's ઐતિહાસિક સંશોધન (*Parishad Granthavali*, Grantha I, 1941) pp. 497. The English rendering is done by Shrimati Sushila Desai, M.A., LL.B.

1. *Historical Inscriptions of Gujarāta*, p. 3.

2. *Historical Inscription of Gujarāta*, p. 9, No. 6, 1.8.

NĀGĀRJUNA :

The Bauddha and the Jain literature regard Siddha Nāgārjuna as a great man and a great ācārya, while in the medical literature he is recognized a pioneer of alchemy. But, whether Nāgārjuna in the above three contexts is one and the same person or refers to different individuals is a controversial point. A commentator of the *Suśruta*, Dalhaṇa, speaks of "Nāgārjuna as a *pratisamskartā*³ of the *Suśruta*."⁴ The school of alchemy consider him as a *rasasiddha*—an efficient alchemist.⁵ Vṛnda⁶ and Cakrapāṇi⁷ refer to "certain formulæ as composed by Nāgārjuna." Vijayarakṣita, the commentator of Mādhava quotes from *Ārogyamañjarī* of Nāgārjuna, The *Rasaratnākara*, also ascribed to Nāgārjuna, is available, while a third work, *Kakṣa-putatantra* is listed against his name. Again, Bodhisattva Nāgārjuna, one of the famous ācāryas of the Mahāyāna school of the Bauddhas and the author of the *Mādh-yamikavṛtti*, is a philosopher and not a physician. And among the Jains, numerous legends regarding Nāgārjuna, a disciple of Pādaliptācārya, are current.

Alberuni, who visited India in the first half of the eleventh century, writes of a "Nāgārjuna as a famous proficient preceptor of ancient chemistry who lived a hundred years before his times in Daihaka, near Somanātha."⁸ Thus so far as Alberuni's record goes, one Nāgārjuna lived in Gujarāta in the latter half of the ninth or the first half of the tenth century.

But Hiuen Tsang who travelled in India nearly four hundred years before Alberuni respectfully alludes to a *bodhisattva* Nāgārjuna, who was well versed in Āyurveda and a great friend of King Sātavāhana.⁹ Bāṇa, a contemporary of the Chinese traveller, expresses similar views.¹⁰ It thus follows that two famous individuals named Nāgārjuna lived at different times or possibly there were more than two individuals bearing a similar name. But Gujarāta cannot claim Bodhisattva Nāgārjuna, a friend of King Sātavāhana as its own. Only the author of the *Rasaratnākara* or some such other work can be said to belong to Gujarāta. The *Prabhāvakacarita*¹¹ and other Jain works refer to the one who was born, brought up and flourished in this land.

HIS WORKS :

The *Rasaratnākara*, also entitled the *Rasendramaṅgala* in the colophon of its another MS.¹² is, at the outset said to consist of eight *adhyāyas*, but the available MSS

3. विस्तारयति लेशोक्तं संक्षिपत्यतिविस्तरम् ।
संस्कर्ता कुरुते तन्त्रं पुराणं च पुनर्नवम् ॥

चरकसंहिता, सिद्धिस्थान अ. १२, श्लो. ७६.

4. Introduction to the *Suśrutasaṃhitā*, by Kavirāja Gaṇanātha ŚARMA, p. 6.
5. P. C. RAY, *History of Hindu Chemistry*, Introduction, pp. 35-38.
6. D. K. SHASTRI, *Ayurvedano Itihāsa* (Guj.) (1942), p. 81.
7. *Ibid.*
8. SACHU Alberuni's *India*, Vol. I, p. 189.
9. BEAL, *Buddhist Records of the Western World*, Vol. II, pp. 212, 216.
10. *Harṣacarita*, Ull. 8, VIII.
11. *Prabhāvakacarita*, "Pādaliptaprabandha," W. 249 ff.
12. The *Rasendramaṅgala* is published in 1924 by Rasavaidya JIVARAM KALIDAS in Gondal from several MSS. For the identity of these two, vide Introduction to the above edition.

preserve only four of them. It includes several topics of alchemy like the eighteen chemical processes as well as purification of mercury, transmutation of lower metals into gold, metals and minerals, liquification of mica, etc. Besides, it contains certain formulae like the *manthānabhairavarāsa* and the *daśamūlakvātha*. Thus, the work, as it is, does not appear to be earlier than the eleventh century. The MS., however, contains a fragment of the *Kakṣapūta*, ascribed to Nāgārjuna, though an altogether different work, named the *Kakṣapūṭā* of Nāgārjuna's authorship is available in the form of a MS.¹³ It consists of twenty chapters, dealing with subjects of sorcery, like *agnistambhana*, *gatyādistambhana*, *senāstambhana*, *aśanistambhana* (i.e. paralysing fire, gait, army and thunderbolt), *mohana* (charms), *uccāṭana* (overthrowing), *māraṇa* (murder with charms), *vidveṣaṇa* (spiting), *indrajālavīdhāna* (jugglery), etc.

Another work, viz., the *Āścaryayogamālā*, ascribed to the same author is mentioned in Peterson's *Reports*,¹⁴ on which a commentary by a *Śvetāmbarī* Jain, Guṇākara, written in 1239 A.D. is available. The work deals with subjects similar to those in the *Kakṣapūṭa*, such as, *vidveṣaṇa*, *uccāṭana*, *citrakarāṇa*, *manuṣyantardhāna*, *kutuhala*, *agnistambhana*, *jalastambhana*, *unmādakaraṇa*, *romaśātana*, *viṣaprayoga-vidhāna*, *bhūtanāśana*, etc. Though these topics do not require much by way of exposition, these tantric works invest commonplace matters, like the *romaśātana* (removal of hair) with miraculous elements and prescribe equally strange remedies.

Alchemy, sorcery and medical formulæ are all at a time imputed to the name of Nāgārjuna, but evidently, these have little historical worth.

HEMACANDRA (1089 A.D.—1103 A.D.):

A peep into the history of Gujarāta, from the reign of Siddharāja Jayasimha to Karaṇaghelā, reveals a very covetable state of the land as regards wealth and learning. The ancient medical science, too, began its course, evidently with great force in this prosperous era and went on unimpeded from the twelfth to the seventeenth century. "Gujarāta" then, "shone bright with the lustre of *kalikālasarvajña* Hemacandra." Manifold are the activities of the 'omniscient' *savānt* and includes ancient medical science. He is the author of a medical vocabulary, the *Nighaṇṭuśeṣa*, which though, not in any way excelling other vocabularies of its kind, accelerates the progress of the literature by sheer genius of its author, as will be obvious from the survey that follows.

SOḌHALA (Twelfth Century):

Soḍhala appears to have lived in the twelfth century. To Soḍhala, as to Hemacandra, medicine was not a secondary activity, he being a medical man. Like Hemacandra, whose all-pervading grasp clutches all the various branches of Sanskrit literature, even so does the keen insight of Soḍhala probe into the minutest details of medical science. He has written a compendium of all the subjects necessary for a medical practitioner and prepared after a careful study and lot of efforts, a vocabulary (*nighaṇṭu*) of the medical plants useful in Āyurvedic medicine as also of the herbs growing in Gujarāta.

13. *Catalogue of the MSS. of Royal Asiatic Society Library*, No. 811.

14. *Peterson's Third Report*, p. 313.

Soḍhala is, as he has himself mentioned in the colophon of his works, a *rāya-kavāla* brahmin of *vatsa gotra* and the son of Vaidya Nandana. Soḍhala is believed quite justifiably, by the learned editor of the *Gadanigraha*, Vaidyarāja JADAVJI TRICUMJI ACĀRYA, to be a resident of Gujarāta as *rāyakvāla* brahmīns flourished there. The *Guṇasaṃgraha*, another *nighaṇṭu*, compelled by Soḍhala, takes note of the medicinal plants of Gujarāta, omitted in the former work and which tally, to a great extent, with their present current Gujarātī names, thus supporting the above-expressed opinion of the learned Vaidya regarding the author's Gujarātī domicile. There is no internal evidence, however, to fix his date. But Bhāvamiśra of the sixteenth century and Śāraṅgadhara of the thirteenth have quoted from his *gadanigraha*. Moreover, Śāraṅgadhara as well as his predecessor, Yaśodhara of the thirteenth century recognize opium as a drug, of which Soḍhala seems to be ignorant. Again, the "prayogakhaṇḍa" of the *Gadanigraha* greatly resembles the "madhyamakhaṇḍa" of the *Śāraṅgadhara-saṃhitā*. Both contain chapters on the preparations of powders, pills, confections, etc. The *Gadanigraha*, further, does not include any chapter on the *rasā-dhikāra* (metallic preparations) as the chapters XI-XII on Śāraṅgadhara. Obviously, therefore, the author of the *Gadanigraha* seems to be a predecessor not only of Śāraṅgadhara but also of Yaśodhara, from his silence regarding opium and metallic preparations. Soḍhala, on the other hand, quotes from the works of Cakradatta (11th cent.). He can thus, on the strength of this external evidence, be placed in the twelfth century.¹⁵ Soḍhala, moreover, appears to be a contemporary of Baṅgasena of Bengal from a comparison of their works, though the former's *Gadanigraha* is more systematic and far superior to the latter's *Cikitsāsārasaṃgraha*.

Soḍhala has done a great service to medical literature of Gujarāta. The *Gadanigraha* consists of ten chapters—all important topics of medical science, viz. (1) *prayoga* (collection of formulae), (2) *Kāyacikitsā* (medicine), (3) *śalya* (surgery), (4) *śālākya* (minor surgery), (5) *bhūtvidyā* (medicine for mental diseases), (6) *bālataṇṭra* (diseases of children), (7) *rasāyana* (science for the prolongation of life), (8) *vājīkaraṇa* (aphrodisiac), (9) *viṣataṇṭra* (toxicology), and (10) *pañcakarma* (methods of medical treatment). Despite the author's several confusions and mistakes in these divisions he deserves to be commended for the new method of scientific treatment of the subject. Soḍhala has, besides, introduced a novel feature in Ayurvedic literature by separating formulæ from medicine. And though Tīsaṭa, Vṇḍa, etc. had commenced writing on medicine, by eliminating anatomy and symptomology, they had divided their chapters according to diseases. Soḍhala continued the old method for treating medicine separately, but divided his chapters in the "prayogakhaṇḍa" under the sub-heads of preparations such as powders, pills, confections and the like. The successors of Soḍhala, Śāraṅgadhara and others have retained this method with additions and alterations—a method simplifying the process of medical preparations. This explains for the popularity of Śāraṅgadhara. It is a wonder, however, that the *Gadanigraha*, an earlier local work did not see the limelight of the day. Can it be for the absence of metallic preparations? Yet certain formulæ in-

15. This conjecture gains support from epigraphic evidence, if Āśadhara, the son of "Joshi Soḍhala," receiver of a gift from King Bhīma (v. s. 1256) be the son of the self same Soḍhala." (*Historical Inscriptions of Gujarat*, Vol. II, No. 158).

cluded by Soḍhala are rare to be found elsewhere. Any way, the beginnings of pharmacopaea through the *prayogasaṅgraha* goes to the credit of Gujarāta.

Soḍhala's another work, the *Guṇasaṅgraha* is also marked by the author's originality. For, while the other compilers merely noted the properties of medicines mentioned in older works, Soḍhala has added to the old list as many as a hundred names of herbs and plants growing in Gujarāta, with their medicinal properties. The *Guṇasaṅgraha*, not hitherto published is quoted profusely by Ruganāthji Indrajī, a resident of Gujarāta, in the *Nighaṇṭusaṅgraha*.

GOVINDĀCĀRYA (13th century):

When Hemacandra and Soḍhala promulgated Āyurvedic medicine in Gujarāta in the twelfth century, Govindācārya and Yaśodhara were the promoters of the school of Āyurvedic chemistry after Nāgārjuna. Of the two, Govindācārya appears to be Yaśodhara's predecessor. He is the author of the *Rasasāra*, where in the colophon he mentions the following facts about himself; that he was the grandson of Ācārya Sahadeva, the son of Surāditya, a pupil of Śrīdhīradeva and a *Moḍha* Śaivaite brahmin."¹⁶ He, moreover, introduces his preceptor as a *Sārasvata* brahmin, born of Abhayapāla, in the intervening region of the Ganges and the Jumna and frankly acknowledges his indebtedness to him.¹⁷

The *Rasasāra* deals mainly with chemistry and dates back to the old (tantric) period when chemistry was not so much in vogue in medical science. In other words, it is a precursor of the *Rasaratnasamuccaya* of the thirteenth century. It is, nonetheless, later than the twelfth century for it mentions opium, which was brought to India along with the advent of the Mohammedans—and no work earlier than the thirteenth century knows of opium. Again, Yaśodhara is well acquainted with the medical properties of opium, whereas Govindācārya's ignorance about it and its place of growth is conspicuous. He is thus, Yaśodhara's predecessor and lived probably in the first half of the thirteenth century. Dr. P. C. RAY¹⁸ is also of the same opinion. His work, as he himself has stated, is merely a compendium of earlier works (*tantras*) on chemistry with neither any novel feature nor a discovery. It is, however, the first work of its kind in Gujarāta. With gratitude, he refers to the Bauddhas of Tibet, Bhutan etc., with whom chemistry was a favourite subject.¹⁹

YAŚODHARA (13th century).

Yaśodhara, a *Śrīgoḍa* brahmin²⁰ by caste, was the son of Padmanābha, "a staunch

16. मोढज्ञातिसमुत्पन्न आचार्य सहदेवकः ।
तदुत्पन्नस्तु यः सूनुः सुरादित्यः कृती भुवि ॥
तत्संभवः सुतः ख्यातो गोविन्दः शिवनन्दकः
शिष्यः श्रीधीरदेवस्य रसकर्मसु कोविदः ॥

Rasasāra.

17. अनुभूतं च यत्सत्यं धीरदेवप्रसादतः ॥
18. P. C. RAY, *History of Hindu Chemistry*, Vol. II, p. 69.
19. एतद्वैद्धा विजानन्ति भोटदेशनिवासिनः ।
वैद्धं मतं तथा ज्ञात्वा रससारः कृतो मया ॥
20. श्रीगोडान्वयपद्मनाभसुधियः ।

devotee of Viṣṇu and lived in Jīṃnagaḍha of Saurāṣṭra.²¹ This Jīṃnagaḍha is, doubtless, the present Junāgaḍh. There is, however, no specific mention of his date, but Yaśodhara, probably meant to be Yaśodhara, is mentioned by the author of the *Rasaratnasamuccaya* (fourteenth century), at its outset, as one of the twenty-seven alchemists²² and passages from his *Rasaparakāśasudhākara* are greatly incorporated therein. Yaśodhara thus lived before fourteenth century and his upper limit does not exceed the twelfth as he has utilized opium as a drug. Being, moreover, a successor of Govindācārya and Somadeva (the author of the *Rasendracūḍāmaṇi*) of the thirteenth century, he can be said to have flourished in the latter half of the same.

Yaśodhara has dealt with various topics of chemistry in his *Rasaparakāśasudhākara*. These are the eighteen chemical processes of mercury, its fixation and killing, the metals, minerals and their purification as well as calcination, the apparatus, crucibles and roasting, etc. The work, besides, includes a hundred chemical formulæ as well as several aphrodisiac prescriptions. And though Yaśodhara acknowledges his debt to the old tantric works, he emphasises, and rightly too, the originality of some of his discoveries.²³ This is testified by the adoption of the method of extracting zinc from zinc ore by the author of the *Rasaratnasamuccaya*. Even the famous scientist, the late Dr. P. C. RAY pays a tribute to the originator of this process when he remarks that "it (the process) is so elaborately given that it may be quoted almost *verbatim* in any treatise on modern chemistry."²⁴

The fourteenth century witnessed a political revolution in Gujarāṭa and one cannot expect much by way of original literary production. Yet it was not an absolutely dark era for ancient medicine. The *Bhandars* of Patan have preserved a MS. of Baṅgasena copied in 1320 A.D. But the copy and study of works written elsewhere did not cover the literary activity of Gujarāṭa. For, Devadutta, the author of the *dhāturatnamālā*, the son of Hari, and a resident of Gujarāṭa²⁵ appears to have lived probably in the latter half of the fourteenth century. The work, in brief, describes the calcination of metals, minerals and gems. Looking to the composition, the subject dealt with and the position in order of development of chemistry, the work does not seem to be earlier than the fourteenth century.²⁶ It is published with the Marathi translation thereof from a MS. of 1723 Śaka era.

21.

देशानां सुरराष्टमुत्तमतमं तत्रापि जीर्णाभिधः ।
प्राकारोऽस्ति स वेदशास्त्रनिरतैर्विग्रैश्च संशोभितः ॥
तस्मिन् विष्णुपदारविन्दरतिक्वच्छ्रीपद्मनाभः स्वयम् ।
तत्सुत्रेण यशोधरेण कविना ग्रन्थः स्वयं निर्मितः ॥

22. P. C. RAY, *History of Hindu Chemistry*, Vol. II, p. 56.

23.

स्वहस्तेन कृतं सम्यक् जारणं न कृतं मया ।

Rasaparakāśasudhākara.

24. P. C. RAY, *History of Hindu Chemistry*, Vol. I, p. 157.

25.

जगत्यां गुर्जरी खण्डे देवदत्तो हि धर्मवित् ।

हरेर्नामभिधानस्य सुतस्तस्य भिषग्वरः ।

तेन शास्त्रविधिज्ञेन कृता रत्नस्य मालिका ।

26. P. C. RAY, *Hist. of Hindu Chemistry*, Vol. II, p. 74.

Devadatta's father, Harivaidya is the author of the *Rasaratnamālā*, an incomplete MS. of which was with Mr. T. G. KALE.

The succeeding century is a period of peace and prosperity in Gujarāta, with Ahmedabad as its capital and literary activities acquired an unprecedented force and gusto.

LAkṢMĪNṢIMHA (15th century).

Lakṣmīnṣimha appears to be a famous medical man of Ahmedabad in the fifteenth century A.D. Though not an author of any work himself, he is styled as *sarvaśāstrārthavidbhiṣak* in the colophon of the *Sarvāṅgasundara*, a MS. of Vāgbhaṭṭa's commentary, which was copied down for him in Ahmedabad in 1486 A.D. in the reign of Emperor Mohammad.

NĀRĀYAṆA (15th century).

The manuscript evidence of the *Kusumāvali*, a gloss by Śrīkaṇṭha on the *Vṛndamādhava* indicates that a Vaidya named Nārāyaṇa lived in the same century. Therein, Nārāyaṇa, the son of Bhāmalla and a *nāgīr* by caste is said to have completed the above gloss, which was left unfinished by its author through fear of its becoming too bulky.²⁷ Nothing certain is known about his date or domicile. He is obviously later than Śrīkaṇṭha who lived in Bengal in the thirteenth century. He is, moreover, earlier than the seventeenth century for a MS of the completed *Kusumāvali*, written in 1630 A.D. is available. It is highly probable that it took a long time for Śrīkaṇṭha's commentary to reach Gujarāta and on the other hand, it might have been not too long an interval to blend the two works. It is, therefore, likely that Nārāyaṇa lived in the fifteenth century. As remarked above, Vāgbhaṭṭa's commentary written in Bengal in the thirteenth century was studied in Gujarāta in the fifteenth. Similarly the comments on the *Vṛndamādhava* were perhaps studied in the same period and someone tried to fill in the lacuna. Nārāyaṇa is associated with Gujarāta merely because he was a *Nāgīr*. From amongst the numerous commentaries on the Sanskrit works on ancient medicine, not one can be credited to Gujarāta. Hence the importance of Nārāyaṇa.

ŚĀRṆGADHARA (15th century).

Śārṅgadhara, the son of Devarāja and the author of the *Trīṣatī* can also be placed in the fifteenth century. A manuscript of the *Trīṣatī*, written in 1630 A.D. (Vik. Saṁ. 1886) is available. The work is, therefore, written before the seventeenth century. Again Bhāvamiśra, who flourished in the reign of Emperor Akbar (16th century) has quoted from this work in his *Bhāvaprakāśa*. He is thus anterior to *Bhāvamiśra*. He can consequently be placed in the fifteenth century, leaving a considerable margin for the propagation of his repute to be quoted by his successor. He is erroneously identified with Śārṅgadhara, the son of Dāmodara, for evidently the

27.

श्रीकण्ठदत्तमिषजा ग्रन्थविस्तारमीरुणा ।
टीकायां कुसुमावल्यां व्याख्या मुक्ता कचिद् कचिद् ॥
रत्ननागरवंशस्य मिषग्भामल्लनन्दनः ।
नारायणो द्विजवरो मिषजां हितकाम्यया ।
टीकापूर्तिं व्यधात्सम्यक् तेन नन्दन्तु साधवः ॥

paternal names differ. But both of them have recognized the utility of opium and metallic preparations for certain diseases. They are, hence, later than the thirteenth century.

Śāraṅgadhara, the author of the *Samhitā* definitely lived in the fourteenth century. And from the description of the delirious fevers (*sannipāta*) by Śāraṅgadhara, the author of the *Triṣatī*, it can be deduced that he is later than the *saṁhitākāra*, that is, he lived in the fifteenth century.

He mentions himself at the end of his work as “a disciple of *Vaikuṇṭhāśrama*, the gest of the Yatis and a *rāvaḷa nāgīr* devoted to Śiva-Pārvaṭi.”²⁸ He composed 328 verses describing the various types of fevers and their different treatments. He has, moreover, detailed the two sorts of delirious fevers with thirteen varieties of each as well as the treatment in every one of these. Bhāvamiśra has incorporated a major portion of the “jvara-prakarana” of the *Triṣatī*. Thus, while the *Triṣatī* is an original composition, the *Bhāvaprakāśa* is merely a compilation. Even the poetic qualities in this *nāgīr* Vaidya are considerable and a good deal of his reputation depends upon the same.²⁹

The author gives us to know that several *nāgīrs*, with poetic abilities and commanding respect in royal courts indulged in private medical practice. His father, Devarāja, too, was a good physician.

RAṆAKEŚARĪ.

Nothing definite is known about Raṇakeśarī, except a few details gathered from his *Yogadīpikā* regarding his *nagīr* origin and the sources of his work, viz., the works of Suśruta, Agniveśa, Hārīta and Vāgbhaṭṭa.

The *Yogadīpikā*, consisting of three-hundred and ninety verses, outlines in brief the many diseases, their symptoms and medicines. Verses regarding the symptoms are taken from the *Mādhavanidāna*, whereas several verses on medicine are original. No other authors, except those mentioned above, are referred to in the text; nor are there any quotations indicating Raṇakeśarī's time. The work neither prescribes treatments by metallic preparations nor does it refer to opium; mere herbal medicines are prescribed. But we shall desist from conjecturing an early date for him, say thirteenth century, from the *argumentum ex silentii*. We have placed him with the fifteenth century Vaidyas, merely because the *nagīrs* proceeded well with medical activities during this century. Vaidyarāja J. T. ACARYA possesses a MS. of the *Yogadīpikā*.

28.

सुधीरभूत्संसदि भूपतीनां ।
सन्मानभाक् नागरवंशजन्मा ॥
दोषज्ञमान्यः सुकविः कलावान् ।
दयानिधानं भुवि देवराजः ॥
तस्यात्मजः शाङ्गधरसिलोकी ।
पतिं त्रिनेत्रं त्रिपुरां च शाश्वत् ॥
ध्यायन्निमां वैद्यमुदे त्रिदोष-
ज्वरच्छिदे च त्रिशतीं चकार ॥

(इति श्रीमद्यतिवरवैकुण्ठाश्रमश्रीचरणशिष्येण राउलशाङ्गधरेण कृता त्रिशती संपूर्णा)

29.

कवित्वश्रुतिकौतुकात् आद्रियध्वम् मनोरमाम् ॥

GANGĀDHARA YATINDRA

Another *Vaidya* about whom we are in darkness is Gangādhara Yatindra the author of the *Yogarātnamālā*, a MS. of which written in Ahmadabad in 1574 A.D. (Vik. Saṁvat 1630) is available³⁰ though the date or domicile of the author is not therein mentioned. Possibly, the date given in the MS. is the date of its composition and not of its copy!

KALYĀNA (16th century)

A work named *Bālatantra* is composed in 1588 A.D. (Vik. Saṁvat 1644). Its author, Kalyāna Vaidya, gives his father's name as Mahīdhara, who was a devotee of Lakṣmīṅsiṁha and well-versed in the Vedas. His grandfather, Rāmadāsa, was devoted to Rāma. In the concluding stanza of the work, he notes the above date of its composition. In the *Bālatantra*, published by Kṛsnaraja Khemaraja, *ahikṣetra* is an erroneous substitute for the author's *ahicchatra* community, an appellation frequently given by Mahīdhara in many of his works composed in Benaras. A Mahīdhara, author of the *Vedādīpabhāṣya* on the white *Yajurveda* is well-known, though his identification with Mahīdhara, Kalyāna's father, is not definite. He is, undoubtedly the author of the *Mantramahodadhī* "a work inspired by his son, Kalyāna" and written in Vārāṇasī and completed in 1645 (Vik. Saṁvat). Other personal details in the colophon also tally with those in the *Bālatantra* of Kalyāna which was completed in 1644 (Vik. Saṁvat).

Another distant scion of Mahīdhara, *Tarkavāgiṣa bhattachārya kavi* Venīdutta has written in 1718 A.D. a gloss, *Rasikarañjanī* on the *Rasatarāṅgiṇī* and also a work on rhetoric, *Alaṅkāracandrodaya* by name; Venīdutta, too, calls himself an *ahicchatra* of the *Vatsa* family. Though these writers settled in Benares chiefly for the purpose of study, their native land is Gujārāta, as the *ahicchatra*, designation of the *nāgirs* of the *prāśnorā* sub-caste, originally lived there.³⁰

The *Bālatantra* of Kalyāna Vaidya describes the diseases of children, viz., diarrhoea, cough, piles and others and prescribes medical treatment for each of these. Regarding these diseases, the *Suśruta* abounds in religious superstitions and blends with them the general treatment. But Kalyāna has merely expanded the subject with additions of their religious mode of appeasement (*Śānti*), which is not given in the *Suśruta*, thus revealing his deep knowledge of the *mantraśāstra* and of astrology. Of the four or five works on the diseases of children, the *Bālatantra* enjoys an important position.

DEVEŚVARA (17th century)

While the end of the sixteenth century witnessed the composition of the *Bālatantra*, a little later, that is, in the seventeenth century, a work which dealt exclusively with female diseases, named *Strīvilāsa* was written by Deveśvara, a MS. of which is preserved in the Deccan College Library. The *Strīvilāsa* occupies a unique position in the ancient Indian medical literature, as works of this kind in Sanskrit are few and far between.

30. *Catalogue of India Office Library*, No. 2357.

31. For the history of the Ahicchatra community, vide, the author's article, under the caption of "Ahicchatra Jñāti" in *Āitiḥāsika Saṁśodhana*, pp. 709-716.

The work contains seven *tarāṅgas* dealing at length with leucorrhœa, difficult labour, aphrodisiac, etc. Certain formulæ are quite original. The author is a *Śrigoḍa* brahmin by caste and the son of Murāri. His being a *Śrigoḍa* as well as the use of some Gujarātī synonyms like *jāvantrī* for *jātipatrī* (meca) or *choḍa* for *mūḍdhagarbha* assure us of his Gujarātī domicile. The work gives no date, either of its composition or even of its manuscript. But the allusions to various authors and works like *Suśruta*, *Vāgbhaṭṭa*, *Atri*, *Caraka*, *Puruḥūta*, *Vṛnda*, *Baṅga*, *Cakra* and the *Uḍḍīśatantra*, *Yoginīmata*, *Rasārṇava*, etc. provide us with his earlier limit as the thirteenth century. He has, moreover, borrowed several formulæ from the *Rasaratnasamuccaya* and is conversant with the use of opium and metallic preparations. He is thus later than the fourteenth century. But the employment of the numerous Gujarātī words forbids one to presume his date to be as early as the fourteenth-fifteenth century. The Gujarātī word, *choḍa* current in Kathiawar for *mūḍdhagarbha* is used in a Gujarātī medical work of the seventeenth century and is nowhere used in prior Sanskrit works, except the *strīvilāsa*, which cannot, hence, be placed before the seventeenth century. The *Bālatantra*, the *Bhāvaprakāśa*, etc. of the sixteenth century, though treating with a similar subject, show no knowledge of the *Strīvilāsa*. A manuscript of another of this author's work, the *Rasendraratnakośa*, is possessed by the Rājavidya of Bundi.

UPĀDHYĀYA MĀDHAVA (17th century)

Upādhyāya Mādhava, the author of the *Āyurvedaprakāśa*³² and the *Bṛhatpakāvali* seems to have lived in this century. Many persons, bearing the same name, Mādhava, have ventured in the study of different subjects of Sanskrit literature and have given rise to much confusion. Upādhyāya Mādhava is different from and later than Mādhavakara, the author of the *Mādhavanidāna* and the son of Indukara as also Mādhavācārya, the author of the *Vedabhāṣya* though many Vaidyas believe in the identity of the latter two. But the bhāṣyakāra Mādhavācārya, was as he himself has remarked at the outset of his undertaking, a prime-minister of the Vijayanagara King Virabukka I (1314 A.D.—1371 A.D.) He is, thus, a Southerner and lived in the fourteenth century. Whereas Mādhavakara, the pathologist, lived in Bengal before 800 A.D. These two are thus separated by a wide gulf of time and space. Upādhyāya Mādhava, as stated in the colophon of the *Āyurvedaprakāśa*, is "a Sārasvata brahmin of Saurāṣṭra and a resident of Kāśī (Benares)". He is, moreover, not earlier than the sixteenth century as he has quoted with names from the sixteenth century works like the *Bhāvaprakāśa* and others.

The *Āyurvedaprakāśa* contains a lucid treatment of various topics of chemistry like (1) the processes of purification of mercury, (2) the metals and the minerals, (3) purification and calcination of gems, (4) the qualities and types of poisons and their antidotes. The work being a last representative of the school of Āyurvedic chemistry, it draws upon and adds to, with frequent alterations, the matter of the earlier sources. Upādhyāya Mādhava differs from his predecessors especially in giving names of the authors and works which he quotes.

Upādhyāya Mādhava has adopted a most common practice of the seventeenth

32. The *Āyurvedaprakāśa* is already published in the *Āyurvedagranthamālā*, and is cited by Vaidyarāja Shri Jadavji Tricumji, ACĀRYA.

century writers of Sanskrit medical works, that of employing Gujarātī words in their texts.³³

NAYANAŚEKHARA (1680 A.D.)

A Jain, Nayanaśekhara by name, and a disciple of Ācārya Jñānaśekhara of the Añcaḷagaccha sect is the author of a Gujarātī work the *Yogarātnākara* written in 1680 A.D. (Vik. Samvat 1736).

The *Yogarātnākara* is a voluminous work, dealing with all subjects of ancient Indian medicine, including many new formulæ current among the Jains as well as the Hakims.

Other Jain authors of medical works are Śrīkaṇṭha, the author of the *Hitopadeśa*, Māṇikyadeva, the author of the *Rasāvatāra*, and Harṣakīrtisūri, the author of the *Yogacintāmaṇi*. But these being domiciled elsewhere than in Gujarāta, are not included in this survey. Moreover, these works of the Jain writers, except the *Yogarātnākara* are not easily available. But Nayanaśekhara has humbly admitted the debt of his predecessors. The *Yogarātnākara* is, besides being a typical work representing the medical system of the Jains, a good specimen of Jain Gujarātī literature.

JAIN GORJI MOTICHAND.

The *Vaidyamañjarī* is a Sanskrit work on medicine by Gorji Motichand, a Jain of Cutch. The work is not published and there is no evidence to fix its date. The *Vaidyakalpataru* (1908) gives a note that "the work prescribes a general treatment for plague."

MĀDHAVA.

A fragment of a small work on medicine, the *Yogasamuccaya*, written in Sanskrit by a Gujarātī, Mādhava, was lying with the late Shri Tanasukhram Manasukhram TRIPĀTHI. The work, as the author remarks, is a collection from old sources, like the *Suśruta*, the *Trimallaśāstra*, the *Śārāṅgaśāstra* etc. Mādhava is thus later than Trimalla, that is, he lived in the end of the seventeenth or the beginning of the eighteenth century. He is a *Śrigoḍa* brahmin, residing in Vaṭapattana, the son of Harirāma and the grandson of Gopajita.³⁴ Even his father Harirāma was an efficient *Vaidya*.

18th CENTURY.

With the death of the Mogul Emperor Aurangzeb in 1707 A. D. commences a dark era of chaos in Indian politics as in literature. Though no outstanding work on medicine of this century is available, a few eminent *Vaidyas* lived in Gujarāta-Kathiawar. A tradition exists in the Zandu family that a *Vaidya* named Dīnamaṇi had accompanied a Mogul prince on a tour to Kathiawar and initiated one Ranchodji Bhaṭṭa of the family in medical learning—a heritage which is preserved upto the present genera-

33. Here is given as a specimen the *mantra* used as an antidote against the poisoning of a snake :—

“ ॐ કાલો વિષ્ણુ કર્તૃત્રિયાલો સોનાની ચાંચ રૂપાનો પન્નોરો બિષ્ણુ ઉતરે તો ઉતાર ન તો ગરૂ મો હંકાર આવેગો મોર ખાવેગો તોડ બિષ્ણુ વિનરે તો હાક હલોલો કરે મેરી ભક્તિ ગુરૂકી શક્તિ પૂરો મંત્ર, ઇશ્વરોવાચ ”

34. Vide, the vv. at the beginning of the *Yogasamuccaya*.

tion. Another Lakṣmīrāma Śarmā, a *Mevādī* brahmin of Ahmedabad was a successful practitioner of the eighteenth century and commanded great respect in the court of Mahārājādhirāja Pratāpasimha of Jaipur. His grandson, Kṛṣṇarāma Śarmā was a professor in Ayurveda in the Sanskrit Pāthasālā of Jaipur and was the author of a Sanskrit work, the *Siddhabhaiṣajyamāṇimālā*, one of the best medical works of the nineteenth century.

The present century is remarkable for the many-sided activities in medical science e.g. literary, public as well as educational, but these form no part of this article. Among the latest of the authors, who have carried on the ancient tradition of medical science can be enumerated Viṭthaljī Bhaṭṭa (1810—1850 A.D.), his son and pupil Zaṇḍu Bhaṭṭa (1831 A.D.—1899 A.D.), his another pupil Ruganāthjī Indrajī (19th century as well as Bāvābhāi Acalajī (1824 A.D.—1893 A.D.) and Prabhurāma Jīvaṇarāma (1836 A.D.—1902 A.D.). Of these, Ruganāthajī Indrajī is the author of a Gujarātī vocabulary (*nighaṇṭu*) of medical terms and Bāvābhāi Acalajī of the *Rasaratnamāṇimālā*. But the medical activities of the concluding years of the last century are too extensive to be summarily dismissed and demands an exclusive treatment in an article or a book.

The above brief survey of the progress of ancient medical literature from the twelfth century to the modern era has not been exhaustive due to various limitations like the insufficiency of material or personal handicaps. But from whatever I have been able to note down here, it will be evident that the *litterateurs* of Gujarāta made up for their earlier disregard for medical science and enlightened the land on many aspects thereof, like chemistry, diseases of females and children, etc. And though Gujarāta lagged behind Bengal, its progress may well compare with Mahārāṣṭra. And whereas in Bengal, a single community has upheld the tradition of propagating medical science, there is no such community in Gujarāta, where individuals of many a community (e.g. *Rāyakavālas*, *Sṛigoḍas*, *Nāgirs*, *Moḍhas*, *Jains*, *Sārasvatās*, etc.) have offered their quota in its advancement.

And I close this with a wish and a hope that Gujarāta in future will shine out as a first rate advancer of ancient medical literature of India.

THE GUJARAT REGION AND THE PARSEES : A HISTORICO-GEOGRAPHICAL SURVEY

By

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Introduction :

Nature has destined our great country to be a definite geographical unit, admitting within its limits, for many milleniums, long streams of peoples of different castes and creeds and giving them opportunities of mingling their cultures in the different physiographic regions into which it is divided. Indeed, if there is any country in the world which is most suitable for the task of unifying mankind, it is India. But Man, on the other hand, has made a mess of it and, breaking her laws, has put up such

unnatural political barriers and provincial boundaries that now it does not enjoy the peace and prosperity which it used to enjoy for centuries.

One natural sub-division of India is Gujarat and one of the peoples who have inhabited this region and given its valued share in its cultural progress for about a thousand years is *Parsee Zoroastrians*. No community has come into greater prominence in Modern India in spite of its microscopic minority than the Parsees of Gujarat and no community has exercised a greater cultural influence in the whole country, in spite of its socio-religious segregation from other peoples of diverse castes and religions, than this small band, mostly living on the West Coast. Really, if there is any class of people which has claimed not centuries but thousands of years for its continuous and varied history and, at the same time, has seen such vicissitudes of life as the rises and falls of empires, high peaks of prosperity and deep troughs of adversity, intense religious persecution and strong communal solidarity, it is the Parsees.

It is not a mere accident that this community has happened to live in India for a thousand years and more, in *concentrated* settlements only on the West Coast. There must be some definite historico-geographical reasons why the Parsees have done so. Even a casual observer will be able to see this fundamental fact about them, *viz.* "its concentrations, concentration in a particular region, concentration in a particular part of that region and finally extreme concentration in a particular city flourishing in it."

The Census reports of 1941 show the distribution of Parsee population in the whole of India as in the following table :

<i>Province of Bombay (British) :</i>		86,270
Bombay City	59,813	
Northern Division	19,965	
Central Division	5,904	
Southern Division	588	
<i>Indian States (Bombay Presidency) :</i>		8,803
Western India	586	
Western Kathiawar	119	
Eastern Kathiawar	33	
Sabar Kantha Agency	13	
Gujarat States	1,122	
Baroda State	6,930	
<i>Province of Sind :</i>		3,841
Karachi City	3,700	
Rest of the Province	141	
<i>Rest of India :</i>		15,976
Total Parsee Population		1,14,890

The comparative distribution of the Parsee population on the West Coast and the other parts of India is shown below :

<i>Province or State</i>	<i>Total Parsees</i>	<i>Percentage</i>
<i>Bombay Presidency</i>	86,270	75.2
<i>Baroda State</i>	6,940	6.0
<i>Bombay States</i>	1,341	1.0
<i>Western India States</i>	751	.6
<i>Rest of India.</i>	19,598	17.0

So, clearly, it is the Bombay Presidency that claims the largest number of Parsees. A small percentage of this lives in the Native States, preferring the Baroda State. Barring the majority of 59,813 living in the City of Bombay, many of whom have migrated to it in recent years, we shall deal with the Parsee population of Gujarat in the present paper.

In a paper recently submitted to the University of Bombay on the subject of Parsee settlements in India, some of the conclusions drawn are as follows :—

1. The Parsees are the smallest minority community in India (.03 per cent. of the total Indian population in 1941).
2. They are not accidentally concentrated on the West Coast of India.
3. Like other minority communities in India they tend to settle in towns and live in colonies of their own.
4. They have built their settlements near the mouths of rivers or in natural ports, occupied fertile agricultural lands in Gujarat or attempted to trade without any religious or social restrictions.
5. The chief reasons for these settlements were (a) preservation of their sacred faith and (b) facilities for agriculture, trade and commerce.
6. Most of the *original* settlements were in the Native States.
7. The coming of the Portuguese, the Dutch, the French and the British to India gave the community a great fillip and it prospered in such ports as Diu, Broach, Surat, Navsari, Cambay, etc.
8. With the coming of the railway and the development of the Bombay harbour the Parsees migrated to the Island and shared in the foundation and prosperity of the city, as they also did in Karachi.

The Gujarat Region

While dealing, now, with the Gujarat region, it is to be seen why this particular part of the country was chosen by the Parsees for their settlements, how and under what circumstances they grew and why, in the end, the people migrated to other parts of India. Incidentally, we shall attempt to find the conditions on which their material prosperity depended and to solve some of the present-day problems, with which the community is faced, in the light of a historico-geographical perspective.

GEOGRAPHICAL CONTROL IN THE REGION

Let us review, first of all, the geographical conditions in the region and their control on the activities of human beings in general. Physiographically, the region

is clearly defined and lies between the 20°N and 24°N latitudes. With Cutch and Kathiawar as its appendages, it falls within the Section of Western Peneplain, belonging to the Province of the Deccan Trap Region of the Indian Peninsula. Actually it lies between the very dry Rajputana highlands and the very wet west-coast plains, sloping away from the Western Ghats towards the Arabian sea. Most of them are below the 200 feet contour with small hills in between. Except, therefore some good sea-side resorts, there are no suitable hill sanatoria in the region. Thus Gujarat forms a contrast between two divergent regions, sharing the merits and demerits of both.

(1) *Geological Aspects*

Mr. D. N. Wadia, himself a Gujarati and a doyen of Indian geology, has well said: "Although Gujarat to-day is a well-defined unit of the Deccan mainland, its separate entity is only of very late origin, stamped upon it by a few superficial geographical factors." This at once makes it a most suitable area for human settlement in prehistoric and historic times. Solid outcrops are mostly found in the far north and they consist of some crystalline complex, overlain by Dharwar slates and other metamorphic rocks but with very few mineral deposits. Even some representatives of the Gondwana rocks here are devoid of coal and other economic minerals. So are also the unproductive Cretaceous rocks, next in age, found in Gujarat. Not until the great volcanic eruption of the Deccan lava was Gujarat destined to receive its rich rocky material, which has stood in good stead for it for all subsequent ages. Its disintegration by subaerial agencies was a good gift and the soil derived from it viz. *regur* the black cotton soil, has yielded crops, which have given it its prosperity for all times. Since the Deccan plateau has never gone under the sea during the Tertiary epoch, there are no marine rock formations of this period found in this region, except a few outcrops of nummulitic limestone in Surat and Broach districts and in some strata in the gulf of Cambay. This, again, is a very important and fortunate circumstance for the economic history of the region, as there are some chances of finding petroleum in this horizon. Although on the whole, therefore, the geology of Gujarat is unproductive, all the surface accumulations of sub-recent periods, formed by the decomposition and weathering of the native rocks as productive soils and by the deposition by subaerial agencies as river terraces, gravel beds, flood plains etc.—all are very helpful for bearing water and vegetation. The rich black cotton soil is also a product of this late geological age and a powerful source of the agricultural wealth of the region.

(2) *Natural Drainage and Soils*

The natural drainage of the land, too, is peculiar to it. Due to the subsidence of the Gondwanaland on this side of the Peninsula, a good bay has been formed between it and Kathiawar, viz., the Gulf of Cambay. The ancient river systems, which flowed across the lost continent, have kept on flowing in Gujarat from east to west, as exceptions to the other rivers of the Peninsula except the Palghat Gap in the south. The same process of subsidence has caused estuaries instead of deltas in the mouths of the rivers, the Mahi, the Narbada and the Tapti, so dear to the Gujaratis as windows towards the sea. The Narbada really passes through the trough between the Satpura and the Vindhya mountains with its important tributa-

ries draining the Rewakantha States and harbouring Broach at the end, while the Tapti occupies a trough between the Ajanta hills and the Satpuras, with the old important city of Surat on its mouth. The Sabarmati still further north has its important tributaries draining the N. E. tracts and flows south-westerly along some strike valleys. Altogether, there are some twelve rivers, big or small, in Gujarat flowing into the gulf of Cambay, over and above the water torrents draining the region during the monsoon season, no irrigation is, however, done by any canal system.

The soils of the alluvial plain, widening fortunately as we go northwards, are fertile, as we have noticed above in connection with Post-Tertiary deposits. Here and there are laterite caps, harbouring mango trees and giving light-red to dark-brown tints of limonitic and aluminous salts. The coastal band of alluvial fans and detrital deposits is covered over with sand dunes, beaten and piled up by the south-west monsoon current along the coast, so that except the ports in the mouths of the rivers the whole coast is uninviting and the rivers are seasonal and not quite navigable. The same monsoon current is responsible for the rivers getting in spate for days and weeks during the season, causing terrific floods and tremendous soil erosion in many parts of the region. Good lands have readily turned into bad lands and poverty has increased.

(3) Climatic Conditions

Climatically, Gujarat forms a transitional tract between the dry desert and the moist monsoon type. Both the temperatures and the rainfalls improve as we go southwards, e.g. 120°F in the north, with a great diurnal and seasonal range, to 80°F in the south with smaller ranges. Rainfall varies from about 20" in the north to about 100" in the south. The 40" isohyet passes suitably through the best land so far for cotton. The variability of rainfall is the greatest in the north, so that while some years are notable for floods, others are for famines of the severest type. Luckily through the low west-east rivers-valleys the S. W. monsoon-current penetrates and waters the parts, which would otherwise go dry. The Western depression hardly cover Gujarat, so that there is generally no rainfall in winter. The Eastern depressions, however, passing across the region, do bring in storm waters at times. Surface tanks and underground wells are the chief sources of water for these reasons. Chances of semi-artesian wells, however, are good in some parts of Gujarat.

CLIMATIC TABLES

I. RAINFALL

Region.	Jan.-Feb.		Mar.-May		June-Sep.		Oct.-Dec.		Annual	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Gujarat	·2	·4	·4	·9	30·6	34·5	1·1	1·3	32	37
Konkan	·1	·3	2·0	2·6	100·9	83·8	5·5	7·4	109	94

N.B.—Most of the rain falls during the months of June to September, and in Gujarat it is much less than in the Konkan,—hardly one-third. The number of rainy days is also nearly one-third. Though there are some good rivers in Gujarat, they are useless during the off-season. [(1) = Inches of rainfall. (2) = No. of rainy days].

II. TEMPERATURE

Locality	Max. T at noon.				Min. T in the morning				Daily range			
	(F)				(F)				(F)			
	Jan.	May	June	Aug.	Jan.	May	June	Aug.	Jan.	May	June	Aug.
Ahmedabad	85°	107°	93°	97°	58°	79°	79°	72°	27°	28°	14°	25°
Bombay	83°	91°	85°	88°	68°	81°	78°	77°	15°	10°	7°	11°

N.B.—The climate of Gujarat is much more rigorous than that of Bombay, which is naturally preferred by modern Parsees.

(4) *Vegetation and Animal Life*

The hilly parts of the region in the north-east are covered with forests of Malwa teak and especially bamboo and wild animals and wild tribes alone inhabit them. The plundering tribe of Kolis is well-known. Sandier and drier parts of the plain are devoid of vegetation. Wherever the rainfall is heavy, rice fields flourish. Towards the coast, there exists a narrow strip of land of salty soil and brackish water, harbouring cocoanut, palm and *toddy* trees. The rainfall in the rest of the plains is so variable that the plants growing there have become capable of adapting themselves to the water supply. The typical domestic animals are cattle, sheep and goats. In fact, the region is ideal for mixed farming of cattle and crops. Prosperous villages crop up where there are some rich cotton soil and good water. Both the soil and climate are not so good as to yield wheat, but Jowar and pulses take its place with only scanty winter wheat crops.

(5) *Cultural Aspects : Interaction of Man and Nature*

Culturally, again, the Western Peneplain Section coincides with the Gujarat Region. There is an inherent cultural unity between Gujarat proper and the Cutch-Kathiawar peninsula with certain local peculiarities. Like the region itself, the Gujarati language is a denuded relic of old Sanskrit, metamorphosed and altered by the passage of time into a dialect with its inherent cultural peculiarities. The soft soil has produced a soft race of Gujaratis, always known as peaceful tillers of the soil. Nearly 90% of the population is rural with towns, situated only on the coast and the banks of the rivers and having facilities for trade with foreign lands.

Not always happy at home due to the double calamity of flood and famine, the Gujaratis have had their lucky escapes through the few flourishing ports on one hand while there are streams of influx of peoples from far and near on the other. This is the greatest advantage the region has of the sea board, however uninviting it has been due to the unbroken condition and the growth of sand on its fringe. Many have been its foreign cultural contacts within this region, e.g. European and Zoroastrian, the former in recent years and the latter from early historic times.

The effect is chiefly found in the peculiarities of the various dialects of Gujarati. Cutchi is affected by Sindhi, while Marwari just enters northern Gujarat. Parsee Gujarati is a most unnatural conglomeration of Gujarati and Irani. Thus the Gujarati language and literature contain many relics of old, such as Scythian, Dravidian,

Jain, etc., and Gujarati can be styled as the most westerly branch of the Indo-Aryan languages, reaching the sea-board for further contacts by the sea.

Themselves so docile and peace-loving, the Gujaratis were destined to be frequently invaded by virile and warlike peoples, the Rajputs and the Mahomedans from the north and the Mahrattas from the south. Fitly it is called the "Garden of India" and it has been proved to be so for all times.

In the matter of communications, the Gujarat region is not very fortunate. Due to the existence of low lands and a large number of rivers and Khadis crossing them in the east-west direction, there are very few roads and through routes constructed so far. There is the single coastal railway, the B. B. & C. I. R., touching incidentally most of the important Parsee settlements or towns, but it has the disadvantages of enormous railway bridges and numerous Nullas, so that during the monsoon season whenever there are breaches due to floods, the traffic is deranged and communication stopped. There is no trunk road between Bombay and Ahmedabad and there are very few rural roads available to carry the products of the countryside to the railway stations. The Tapti Valley railway is important in this respect but there is much to be desired in its maintenance and improvement. In fact, there is so far practically no rail-road competition, healthy or unhealthy, on this side of the country.

(6) *Subdivisions of Gujarat*

The Gujarat Region can be subdivided into three parts, viz., Upper, Middle and Lower.

<i>Sub-region</i>	<i>Characteristics</i>
1. Upper Gujarat.	—Lying near the great physical divide, dry and barren. Has a poor, sandy soil. Variability of rainfall is nearly 30%. Both cold and heat are intense. Rivers do not flow all throughout the year. Tanks are provided for water. Wherever the soil happens to be good and well water is available, millet is grown. Some prominent outcrops of old Archean and Trap rocks like hilly islands. Also peninsula-like protrusions of metamorphic rocks. Some minerals are found.
2. Middle Gujarat.	—The isohyet of 40" rainfall passes through it. Healthier climate with black cotton soil and therefore more populated. Rice is grown only on the banks of the rivers. Good river ports.
3. Lower Gujarat.	—Nearer the Deccan Plateau. Wettest and most thickly populated. People rich and flourishing. Hilly approaches in the east are covered with forests, which are inhabited by wilder tribes. The plain of rich Regur is getting narrower. Rivers are shorter and more rapid, forming alluvial fans near their mouths.

N.B.—In all these sub-regions, the cultural and natural landscapes also give rise to the following three longitudinal belts again : (1) The Barrier beach division in which palm and cocoanut trees grow well, (2) the cotton-growing tracts, and (3) the forest slopes of the Western Ghats. Human activities are, therefore, confined in these belts to fishing, cocoanut oil and toddy tapping, farming and forestry respectively. Trade is hampered in recent years due to certain physical disabilities, especially the decay of old ports, such as Diu, Brooch, Dholera, Cambay and Daman. A very powerful sea-current is produced in the monsoon season, forming sand bars near the mouths of the gulfs and estuaries, on account of extraordinary tidal bores. The result is that the ports are silted up rapidly and it is only during spring tides, when enough water goes up the estuaries that it is possible in recent years to reach the quays inland. It has been said that such was not the case even in Arab times,

Historical Background

There is no doubt that sea routes between India and the Middle East have existed for many long centuries and people from Arabia, Syria, Armenia, Iraq and Iran have migrated to our country *by sea*, owing to the peculiar steppe-desert conditions prevailing in them. A Parsee colony is said to have existed at Kalyani as early as the 6th century A. D. and there are colonies of Syrian Christians established in South India even from earlier times. As a result of this ancient contact between India and Persia particularly, there were frequent immigrations of Zoroastrians on the West Coast, for one reason or another. But in their case religious persecution was the most important. "Though the available information on the history of Gujarat" says Khan Bahadur Commissariat, "in the eighth century of the Christian era is fragmentary and the period is shrouded in great obscurity, we must mention one episode of considerable significance for the future, which has generally been ascribed to the first batches of the early Parsis, who left their ancestral fatherland of Iran, after the fall of the great Sassanian Empire, in order to escape the religious persecution by the Arab conquerors and landed on the hospitable shores of Gujarat, where their descendants have been settled for the last twelve hundred years. The traditional date for the landing of these Iranian 'Pilgrim Fathers', at some spot near the present hamlet of Sanjan, has been given as Shravan Shud 9 Samvat 772 (A.D. 716). Though this date has been challenged by competent historical scholars, it appears best, until more light is available on the subject, to accept it as a working hypothesis. It must be also borne in mind that the exodus from Parsia was spread over several generations, and that later batches of Zoroastrian fugitives from that country continued to arrive at the coast-towns of Gujarat in the ninth and tenth centuries." It would be interesting to imagine what would have been the condition of this community today, had the Pilgrim Fathers migrated to some other country and not landed on the West Coast of India. Being a virile, illustrious and dashing race, it is likely that they might have won independence and established a separate and very prosperous colony somewhere else, long years ago. Their fate, however, was linked with the Gujaratis, a branch of the ancient Vedic Aryans, who once lived together with the Persian Aryans in the Aryan Home on the banks of the Syr-Amu Darya Doab. And together they have, indeed, lived peaceful and flourished in their new home in the Gujarat region to its infinite advantage.

High Probability of Kisseh-e-Sanjan : Parsee Pilgrim Fathers

The most important document regarding the early history of the Parsees is the Kisseh-e-Sanjan written in Persian by one Mobed Bahman Kaikobad Sanjana, at Navsari in 1599 A.D. Attempts have been made recently to disprove the authenticity of this only available traditional source and although Bahman's writings are rather poetic, sentimental and dogmatic in some respects, good Parsee historians, viz. Prof. Shapurji Hormusji Hodiwalla, Mr. Shapaurji Kavvasji Hodiwalla, Dr. Sir Jivanji Jamshedji Modi and others have accepted the *spirit* of the poem and tried to support the Sanjan theory. In fact, the Sanjan Memorial Column raised at the instance of the late revered Sir Jivanji is an outcome of this controversy. Prof. Hodiwalla has, however, suggested an alternative date of the landing at Sanjan viz. Samvat. 992 (936 A.D.), by identifying Sanjan some 16 miles south of Daman. While, therefore, his-

torians still differ in their views about this very first Parsi colony in South Gujarat, geographical proofs are self-evident and cannot be gainsaid. How is it that there is such an intense concentration of the Parsees on the West Coast? Was Gujarat the *only possible* region suitable for colonisation in India by this community, if the people came by a *land* route? What was that land route between the Indian frontier and Gujarat? The chief obstacle is the desert of Rajputana. It was easy to communicate with a peace-loving Hindu Raja on the coast with no serious obstacles in the way, except sea storms and pirates; but it was a herculean task to withstand the various warlike tribes both on the N. W. frontier, and on the way as far as Gujarat, a thousand miles away. No doubt there were early Zoroastrian settlements in the Punjab, Sind, and other parts of India, as the numerous archaeological, numismatic and inscriptional records show. But there is not a single *living* colony of *early* Parsees now left in these parts. The reason is that they were absorbed in the country in general. The religious zeal, with which the Sanjan landing was made and the Parsee colonies in Gujarat were established, was not so strong and the *historico-geographical circumstances* were not so favourable to them *anywhere else in India as in Gujarat*. The earlier Zoroastrian colonies in northern India were due, to some extent, to political conquests of Darius the Great, Mithridates, Beheram Gore, Khushru Parviz and other great Kings of Iran. Even Iranian princes married Indian princesses in the heyday of Iranian sovereignty. But this earlier intercourse was comparatively short-living and the Zoroastrians seem to have been absorbed in the Indian populace. The opposit'ionists, however, contend that the Zoroastrian fugitives from Khorassan could not have possibly returned to the South Persian coast to embark for the Indian coast and through the Hormuz Island to cross the Arabian sea all the way to Kathiawar, when they should easily travel through the Khaiber Pass and enter India on the other side. But it must be remembered that in the past a much larger part of the Iran plateau, including the coast land, and not the present Khorassan Divide, alone was called by that name. Besides, emigrations through the Passes might have also taken place side by side but the colonies did long survive. It is the last batch of zealous, peace-loving and true Zoroastrians that came to India under dire circumstances and *remained as such for these many centuries* that we are here to deal with. Not until some further archaeological excavations are made and inscriptions found to indicate the ancient Zoroastrian colonies in upper India, *specially the land route or routes* by which the Persians immigrated into Gujarat, will it be possible to dislodge this Sanjan theory. Suffice it to say, for the present, that it is highly probable that the *last definite and rather concentrated exodus of the Persian Zoroastrians took place some twelve centuries ago and the landing was on the West Coast of India*. The sea route taken by the emigrants was almost straight, the south-west monsoon producing the required drift and the sailor hugging the coasts all throughout. The Island of Hormuz, the Kathiawar port of Diu and finally Sanjan are geographically accurate points and it seems that the narrator of the Kisseh-e-Sanjan knew the geography of the regions well. Prof. Hodiwala, our chief historian, has been at pains in his "Studies in Parsi History" to show that there was a Hindu Raja of the Silhara dynasty ruling contemporaneously in this locality and that Sanjan was at that time a flourishing port. "There can be no doubt that the Konkan Sanjan was originally a colony founded by the Zoroastrian

refugees who gave it its name after Sanjana town in the Khwaf district of Kohistan, in which they first took refuge for religion and conscience's sake and which they afterwards abandoned for more distant lands for the same reason. That the name (Sanjan) was first given by the Parsis and is not of indigenous origin is further proved by the artificially Sanscritised forms 'Hanjamangara' of which such a good Sanscritist as Telang, said he could not make anything so late as 1880. It is easy to suggest and it has been since suggested by many that the Sanscritised form is connected with the Persian word 'Anjuman', Avestain Hanjamana, meeting, assembly, congregation of the Anjuman." According to Al Idrisi, an Arab geographer, Sanjan "was a prosperous place in the 12th century at least, its inhabitants were noted for industry, intelligence and of a warlike temper and that town was large and had an extensive commerce." Even the era mentioned in the Kisseh is correct, *viz.* the Vikram and *not* the Shaka Samvat, as it was at Diu, the first landing-place of the Sanjan Parsees, that they learnt the Gujarati Hindu system of counting the time. Incidentally this circumstance proves the cultural affinity of Kathiawar with Gujarat.

The Exodus of the Iranshah

Although politically Sanjan is said to be in the Konkan, geographically it falls more or less within the Gujarat region. From this port to other ports in Gujarat proper, the exodus of the Iranshah (the Holy Fire, kindled by the Parsees at Sanjan and called Atash-e-Beheram, the Fire of Victory) to other important Gujarat ports, was easy. The very first Parsee settlement in Middle Gujarat has been considered to be Navsari in 1182, that is "less than three hundred years after the landing and the Zoroastrian colonies in some of the other towns (Vankaner, Anklesar, Variav etc.) came later", according to Prof. Hodiwala.

As in the case of a typical Gujarat village, the centre round which a Parsee colony is established is a Fire Temple. But in the central Zoroastrian city settlement, this temple was of the cathedral type, called Athashbeheram or Iranshah. Political troubles did not unfortunately end with their colonisation on the West Coast, as the history of Gujarat shows, and the Parsees had to face Mahomedan invasions here also in their peaceful towns and villages. Although one of the promises given by them to the Hindu Raja was that they would always remain "Friends of Hindustan" and their principal occupation was cultivation, their warlike spirit, still burning in them, stood in good stead and with the Hindu rulers they too had to face the hostile assaults more than once, though not always with good results. Their best possession, the Sacred Fire, alone they could carry away wherever they had to go. The following are the chief perigrinations of the Iranshah in Gujarat, if we accept the dates of the Kisseh-e-Sanjan without any correction, for the present :

1. SANJAN—72 A.D. 1393 A.D.
2. BARHOT MOUNTAIN—1393 A.D.—1405 A.D.
3. BANSDA—1405 A.D.—1419 A.D.
4. NAVSARI—1419 A.D.—1734 A.D.
5. SURAT—1734 A.D.—1737 A.D.
6. NAVSARI—1737 A.D.—1740 A.D.

7. BULSAR—1740 A.D.—1742 A.D.

8. UDVADA—since 1742 A.D.

Share Given by Parsees to Gujarat's Culture

Apart from preserving the Sacred Fire, which the Parsees kept on burning without a single mishap all these centuries in the above centres, they have given a very valuable share in the culture of the land and thereby repaid their debt of gratitude to the rulers whoever they were,—Hindus, Mahommedans, Christians,—manifold in extent. In the words of a traveller through Gujarat in 1626 A. D., when the Iranshah was located in Navsari : "Turn we now to another sort of Gentiles in Surat and Guzzurat called Parsees who are a people banished hither upon the death of valliant Yazdgird, the Persian King,.... Into India these Parsees came in five junks from Gasquez, sailing to Surat, where after treaty with Rajeaes and Bunnyans, they got leave to plant, and living peacefully to exercise their religion." (*Travels into Divers Parts of Africa and Asia the Great.*—Sir T. Herbert). Going a step further the Parsees have exercised some civilising influences in Gujarat, which can be seen from the following : "But if Persian Muhammadans were influential in India, the followers of the old Persian faith were also powerful agents in civilising the country. The Persian settlers in Gujarat—the forefathers of the modern Parsis,—did the same service to India as the Huguenots did to England. They introduced new arts and sciences and enriched the life blood of the Indian nation. When we think of what the Parsis have done for India the Huguenots for England and the Puritans for America, we are almost inclined to think that there is good in religious persecutions and that like Kingsley's 'Wild North-Easter' they drive hearts of oak seaward round the world." (Henry Beveridge I.C.S. in "*India's Debt to Persia*".)

So, remaining aloof from the native population and preserving a socio-religious segregation and solidarity for more than 1000 years, the Parsees have proved themselves to be serviceable to their land of adoption in every walk of life. Charity is a religious injunction and this great virtue has enabled them really to be "Friends of India" in her needs, *wherever they have lived in the land*. One of the most outstanding Parsee Charities also affecting the future of Gujarat was the first bridge called Lady Jamsetjee Jejeebhoy Bridge, constructed between the Bombay island and the mainland at Mahim at a cost of Rs. 1,55,000 in 1845, exactly a hundred years ago.

Early Parsee Settlements in Gujarat

Although adverse circumstances in India could not permit the Parsees to share their religion with the people of other communities as their forefathers did in Iran and of the Iranian empire for milleniums, they could willingly share their *culture* at least with the natives : Agriculture, according to the Zend—Avesta, is next only to godliness and this, therefore, was their first profession in Gujarat and they had to choose good cultivable soil and water supply for their settlements. (1) Lower Gujarat, fringing on the Konkan, was the first sub-region chosen. The entrance through the Sanjan port was not difficult and the escape into the neighbouring Barhot hills was easy when their enemies chased them even here. Gradually the concentration took place in Middle Gujarat. (2) There were long-distance migrations from the first port, the choice of the next settlements depending upon harbour faci-

lities on the one hand and good land on the other. The Native States were, therefore, preferred by them. (3) The Mouths of rivers and river terraces were most attractive to them. (4) With the growth of a settlement e.g. Surat, even short-distance migrations were tried and several villages round about it were either newly established or occupied alongside the native farms. (5) *Fresh fields and pastures new* was their motto. The march of time opened their eyes and from farming they turned to cottage industries, export trade and, later on, even heavy industries such as cotton ginning, weaving, distillery work etc.

Parsee life in Gujarat

A good idea of the occupations, in which the Parsees of Gujarat indulged for many centuries, can be obtained from a study of the surnames they have adopted. There is not a commodity in Gujarat that does not distinguish a Parsee family from another,—names like Lodhawala, Lakdawala, Kandawala, Kerrawala, Limbuwala, Sopariwala, Bokrawala, Papetawala, Daruwala, Patranwala, Gorwala, Todiwala, Mithaiwala, Sodawaterwala, Batliwala, Vandriwala, Khajurina, Minwala, Battiwala, Masalawala, Bastawala, Unwala, Patwa and Hiramaneck. A large number of Parsee place surnames is also after the towns or villages their forefathers occupied, e.g. Anklesaria, Bharucha, Pithawala, Surti, Gandevia, Billimoria, Bulsara, Nosakra, Bhasania, Sanjana, Udvadia, Damania, Daviarwala, Bhesania, Randeria, Sachinwala, Adajania, Mahuvawala, Medhora, Amrolia, Marolia, Khergaumwala, Mandviwala, Siganporia, Rajkotwala, Olpadwala, Vedchhawala, etc.

In fact, the Parsees lived in *any* profitable locality and took to *any* profession which called for hard labour, honesty of purpose and long-range vision. But there were *no* Parsee butchers, barbers, shoemakers, blacksmiths and even beggars, as these touched their religious susceptibilities deeply. They thoroughly recognised the dignity of labour and a portion of their hard-earned wealth they shared with the poor, whether they belonged to their own community or others. They continued the study of Irani (Persian) and corresponded with their co-religionists in their old mother-land in important religious and social matters. The Revayats, composed at Broach some 500 years ago, were the results of these communications.

They lived the same simple, honest and profitable life, ate the same staple food of rice and Jowar, drank the same harmless drinks, built the same type of brick-timber buildings and wore the same kind of dress as the Hindus of Gujarat. Many of their social and some of their religious customs too they copied. Even their mode of recreation after hard labour was the same e.g. Parabhs and Ujanis for whole families. Only in their religion they remained staunch and aloof, thinking this to be *the safest course for them in a country of teeming millions with hundreds of castes and creeds*. At the same time, they respected the religions of other communities and did not touch such things as the flesh of cows or pigs. On the other hand, they actually revered domestic animals, such as a cow or dog and considered Mahomedan Dargahs or tombs as holy.

Prosperity and Adversity

"If knowledge were in the Pleiades, the Persians would have it." True to this proverb from ancient times, the Gujarat Parsees educated themselves not only in their sacred lore but also in secular learning. They excelled in arts as well as in sciences as they came in their way. Their literacy thus came to nearly cent per cent.

Sanskrit, too, they learnt as a fulfilment of the pledge given to the native king and most of the extant Avesta was translated by scholars like Neryosang Dhaval into this language of the Pandits. It is said that the Parsees of the 13th and 14th centuries A.D. knew Sanskrit so well that they could easily communicate with the intelligentsia of Gujarat.

Later on, when dark ages set in and the Parsees could not remain in touch with the high-class Gujarati-speaking people, the dialect picked up by them from the illiterate ryot was a sort of broken Gujarati and to a certain extent Persianised. Otherwise the Parsees are capable of learning any language, native in origin, with the best possible accents and idioms.

Not quite happy and prosperous at home, they sought fresh fields at first within the limits of Gujarat and, later on, even outside its limits. Thus there were three long-distance migrations as follows :—

1. Motivated by political situations during the 10th century and after.
2. Motivated by religious quarrels among themselves during the 15th, 16th and 17th centuries.
3. Motivated by economic depressions during the 18th and the 19 centuries A.D.

The erosion of good soil by floods, horrors of famines and fires, silting up of the Cambay and other Gujarat ports and river mouths, and the coming of the Bombay, Baroda and Central India Railway were among the chief causes of Parsee emigrations to localities outside Gujarat in more recent years, while invasions, raids and acts of violence upset their settlements in former times.

Decay Sets in

The total population of the Parsees in Gujarat in 1891 was 34,411 but decay had set in the community long before this. In 1880 Byramji Malabari, a native of Surat but one of the greatest Parsees of his time, wrote convincingly as follows :—

“Gujarat was long the headquarters of the Parsis, especially so Surat and the adjoining towns ; and it can now boast of some ‘very good’ families. But the Parsis of Surat have fallen upon evil days. The Shettia class, that is the aristocracy, became by training, lazy, listless, gregarious creatures, grovelling for generations in one and the same grove. They cannot understand patriotism and though charity is the very basis of their grand old faith, they are utter strangers to that greatest of divine graces. Their notion of charity is the giving away alms, the distribution of money—their own and anybody else’s—to the deserving or undeserving, with some object, often that of earning popularity or official favour. That comprehensive virtue which inculcates a spirit of justice and generosity and total forgiveness they lack the faculty to appreciate. They know not, the bulk of them, the true nature of charity. No doubt our Shetts are loyal to the British Crown, but to what ruling power have they ever been disloyal? Loyalty is their policy, their interest. Excepting in this matter, the Parsi Shett of Surat is an honest, peaceloving citizen. He seldom beats his wife, and is otherwise a very pious, moral old gentleman, with a few ‘old-gentlemanly vices’ and, many old-gentlemanly virtues.

There are Parsi Shetts in Bombay, too, a shade better than those in Surat. They are more civilised, so to say, but all their civilisation does not save them from priestly influence.”

To a very great extent this picture of Parsee life, given some 65 years ago by one of us, is true to-day. Of course there were other causes also of this decaying condition.

Geographical Aspects of the Situation :

A study of the Map, especially drawn for this article, shows :—

1. Some of the ports, which were prominent on the West Coast of India in olden times, lie more inland than they were before and have lost their importance.
2. The Narbada estuary is still the widest and the best in the whole region. But it is greatly silted up. No wonder one of the earliest localities chosen by the Parsees was Broach.
3. Villages, which are now lying off the beaten track, are almost abandoned by the Parsees.
4. Most of the Parsee settlements are found in Middle Gujarat, which they found more suitable than the other parts. There was too much concentration.
5. The B. B. & C. I. Railway touches most of the prominent settlements, while some of the rural roads touches others. But they stimulated migrations.
6. The Mahi and the Sabarmati estuaries are unprofitable, because of the powerful tidal bores produced by the monsoon winds. Their harbours are very rough and getting silted up, as time goes on.
7. In general, the pattern made by these settlements within the Gujarat region is in the shape of a ribbon broadening in the Middle sub-region and narrowing down as we approach the head of the Cambay gulf in the north and the Deccan plateau in the south.

Present Parsee Population of Gujarat.

The following table shows the present population of the Parsees of Gujarat, both urban and rural, according to the Census of India, taken in 1931 :—

URBAN POPULATION AND OVER 100

Surat	.. 4,938	Ahmedabad	.. 1,331	Anklesar	.. 263
Navsari	.. 3,783	Bulsar	.. 1,285	Rajpipla	.. 250
(3,727 in 1941)		Billimora	.. 641	Bansda	.. 240
Nargol	.. 1,500	Baroda	.. 593	Pardi	.. 170
Udvada	.. 1,500	Gandevi	.. 430	Sachin	.. 144
Broach	.. 1,457	Bhavnagar	.. 309	Dharampur	.. 143

RURAL POPULATION AND UNDER 100

Bhatha (Surat).	Mundroi (Surat).	Vedchha (Sachin)
Rander (Surat).	Siganpore (Surat).	Sungad Viara (Navsari).
Bhesan (Surat).	Sumali (Surat).	Medhor (Gandevi).
Bardoli (Surat).	Umra (Surat).	Karanj (Ahmedabad).
Bhagva (Surat).	Vesu (Surat).	Ilav.
Dumas (Surat).	Amroli (Surat).	Cambay.
Ichhapore (Surat).	Tena (Surat).	Adajan.
Kudiana (Surat).	Tavdi (Navsari).	Olpad.

Chikhli.	Mahuva.	Godar.
Daman.	Rajkot.	Khergaum.
Daviar.	Saronda.	Mandvi.
Diu.	Tarapore.	Vankaner.
Jamnagar.	Sanjan.	Variav.
Khajod.	Borigaum.	Godhra.

N.B.—The most important landmarks in connection with every one of these settlements, old and new, small or big, are a Fire Temple, a Dharamshala, a Baugh and a Tower of Silence. In large cities, such as Surat, Navsari and Udvada there are cathedral-like temples called Atash-e-Beherams, while in smaller places there are chapel-like temples called Aghiaries or Dar-e-Mehers. Similarly, there are Towers of Silence in places with a good Parsee population and only Aramghs (burial grounds) in small towns and villages. Towers of Silence and Aghiaries in a ruined condition still exist in several of the above villages and old towns. A Tower of Silence is very difficult and very expensive to make and hence the Aramghs in small Parsee localities in India.

That there is a distinct movement of Parsee population from Gujarat and its Native States to other parts of India, especially Bombay, Karachi, Calcutta and Madras where they can make their living and preserve their racial characteristics, can be seen from the following table :

District/ State.	1911	1921	1931	1944
Bombay Presidency	78,185	79,783	86,007	86,270
Difference	+1,598	+6,244	+ 263	
Sind Province	2411	2,913	3,537	3,838
Difference	+ 502	+ 624	+ 301	
Gujarat States/Agencies	2,585	2,453	2,335	1,899
Difference	— 132	— 118	— 436	
Baroda State	7,955	7,949	7,127	6,930
Difference	— 6	— 822	— 197	

The outstanding trends of Parsee population movements in particular districts are shown in the table given below :—

District.	1881	1891	1901	1910	1921	1931	1941	Variation 1881 to 1941)
Bombay City	48,597	47,458	46,231	50,931	52,234	57,765	59,813	+11,216
Bombay Suburbs	Included in Thana				2,445	3,815	3,944	+ 1,499
Poona Dist.	1,574	2,046	2,342	2,695	3,067	3,473	3,681	+ 2,107
Thana	3,042	3,920	5,238	5,105	3,439	3,020	2,481	— 83
Broach	3,042	3,273	3,127	2,770	2,221	2,090	2,092	— 954
Surat	12,593	12,757	12,516	11,783	11,057	10,547	9,500	— 3,093
Ahmedabad	652	835	1,323	1,639	1,670	1,397	1,885	+ 1,235
Karachi	969	1,408	1,841	2,202	2,720	3,364	3,721	+ 2,752

It is clear from the above statistics that Gujarat, on the whole, has lost some thousands of Parsees during the last century or two, while Bombay and other places have gained in their numbers, due to the growth of trade and industries in them. Ahmedabad is a solitary instance, in which instead of a diminution there is an increase of over a thousand Parsees during the last 70 years. At the same time, it should be noted that the increase of total Parsee population in India is only about 27 % between the years 1881 and 1941 and there is simultaneously an increase of

about 40% in the unmarried population and a decrease of about 33% in the married population of the Parsees. This, coupled with the fact that the birth rate too is greatly declining is a distinct danger signal for the whole community, which has shown such a valuable record in the past history of Gujarat.

Community Drifting towards Old Age

The Parsee community is really drifting towards old age. Already it is on the way to becoming a race of old people. The number of Parsee boys and girls has greatly declined during the past decades and that of the old persons has increased—a result of excessive birth control in city life. The Parsee birth rate and the marriage rate must greatly improve to ensure the solidarity of the race in the absence of any system of proselytism, a policy adopted by the community under the present circumstances. In any case, this drift towards a people of old age must be stopped.

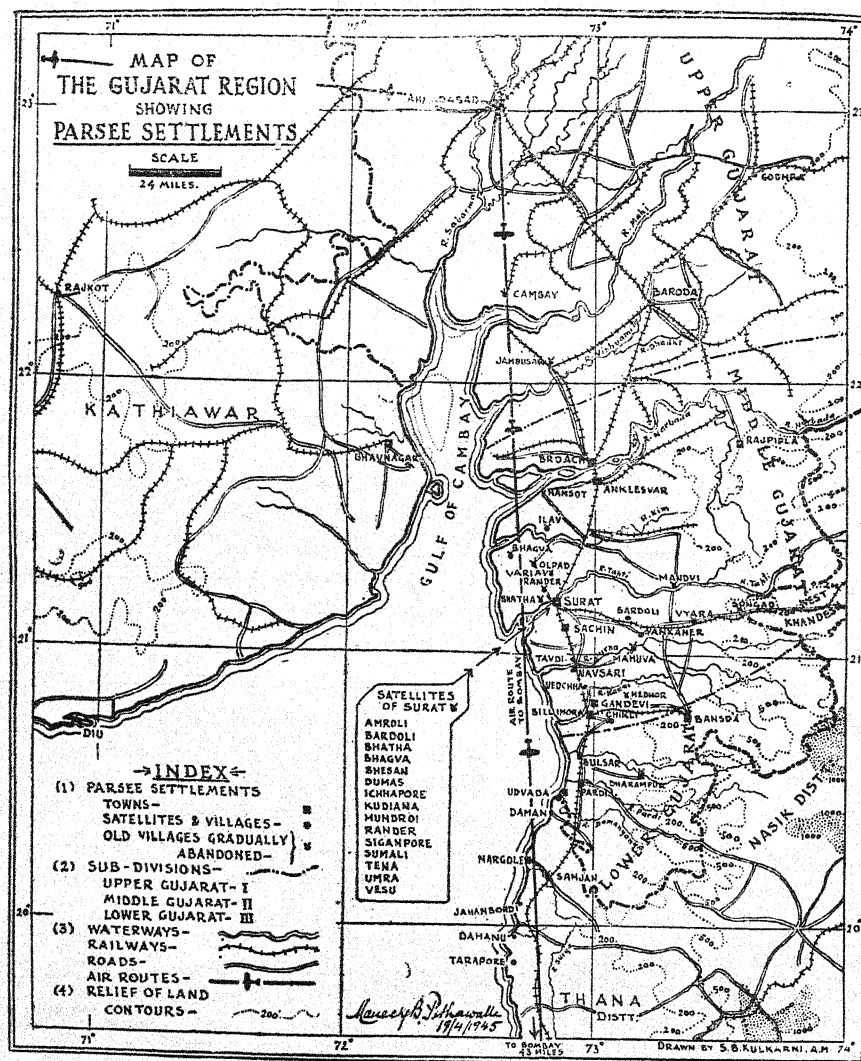
The Dark Side of Parsee Life

The falling birth and marriage rates are not the only signs of the community's downfall. These people are an easy prey to city life and its concomitant evils. While they lived a simple, healthy and religious life in Gujarat for many centuries, they are now getting more and more materialistic, luxurious and indifferent in large cities in India. There is extreme poverty on the one hand and abundant wealth accumulated by the last generation on the other hand. The poor have learnt to live largely on doles, while the sons of the rich spend their fathers' well-earned money recklessly. The priestly profession has suffered much owing to the advanced education, which their sons have been taking. Though the gain to the country on account of brilliant educated Parsees (sons of Mobeds) is great in every sphere of life, law, medicine, engineering, commerce etc., the loss to Parsee priesthood is terrible. India has seen such great Parsees as Dadabhai Naoroji, Behramji Malbari, Jamshedji Tata, Kakhushru Kabraji, Jamshedji Jejeebhoy, Shapurji Bharucha and others all hailing from one or the other Parsee settlements in Gujarat. But it is doubtful whether this stream of Parsee heroes will be continuous.

Although their religion does not prohibit them to practise proselytism, their present social position in the country does not allow them to do so. They have indulged in inbreeding tremendously so far. At the same time, arguments in favour of communal marriages are advanced by scholars like Prof. J. J. Asana of the Gujarat College. His theory is that "the community, in general, carry as it were in their blood, small particles, germs, so to say, of some good qualities existing side by side with other qualities, good, bad and indifferent. One great thing to remember about the nature of these particles or germs is that they always remain separate, distinct inside our bodies. They are transmitted, in the same way, separately from generation to generation according to certain laws, some of which are known to science. These particles or germs do not get mixed up in the descendants, they do not change their individual nature but preserve their sameness or individuality for hundreds of years, lying side by side with other particles, like and unlike." But, if there is really a danger of excessive inbreeding and if any extra blood must be incorporated into the Parsee community, a suggestion can be made of importing some Iranee Zoroastrians into it, in order to strengthen the Parsee physique, which is distinctly going down.

Remedies Suggested

Another remedy, that can also be suggested at this stage, is that the Parsees, especially the lower middle and poor classes should go back to their ancestral lands in Gujarat and abandon fast city life. One interesting feature of the migration of Parsee population from Gujarat is that the female population is still, to a certain extent, untouched, while men have gone out for their living. If, in the scheme of reconstruction and post-war planning in Gujarat, these Parsees give their share, both the Gujarat province and the Parsee community would be benefited. We have seen before that it was *not* the liquor trade which made the community so rich in the past ;



it was their nature of adaptability, zeal for progress, business acumen, love for going abroad without any religious or caste restrictions that enabled them to amass wealth in foreign countries, e.g., Africa, China and Japan. These great qualities still persist

but the opportunities are not given to the present generation. Some kind of definite adjustment is greatly desirable in this case. While the natives of Gujarat could not easily cross the *kala pani*, the Parsees have had a peculiar attraction for water,—rivers, wells, seas etc. over which the goddess Ardui Sura still presides. It was considered a meritorious act to construct a well, Talav, Vav or Havada in a dry place. There are many such Parsee landmarks found in Gujarat today. They still have the old love for Baughs and Baghichas for which they were well-known in Gujarat before. Their youths need a distinct bias to be given in their education system for agriculture on one hand and trade and industry on the other.

The Future of Gujarat and of the Parsees

Besides, there is yet so much planning to be done in Gujarat itself. Its rivers still remain to be trained and harnessed to prevent floods and soil erosion. A regular fact-finding and coordinating organisation is needed in Gujarat to facilitate the work of the newly appointed Central Waterways, Irrigation and Navigation Commission in India. The potentialities of the rivers of Gujarat, not only passing through the Gujarat region but incidentally through other provinces, are great. Higher up in the northern ranges of mountains and on the spurs of the Western States lying within the region, there are chances for hydro-electric works.

In the whole region, a network of roads, railways and waterways has to be constructed, if Gujarat is to be on a par with other provinces. A direct railway between Gujarat and Sind is a long-felt need of both. As an essentially agricultural province with such a vast alluvial plain covered with such fertile soils, there is immense scope for crop-planning, mixed farming and fruit gardening in the near future. Heavy and light industries are conspicuous by their absence in this part of India and the old cottage industries of Gujarat, for which it was well-known in the past, are not properly revived and renovated. Ahmedabad alone has robbed Bombay of much of the cotton industry and fortunately it has such a vast hinterland to control. Fishery on the Gujarat coast on modern lines is also non-existent. What a great scope is there for the old Parsee community in these fresh fields in Gujarat, which they must love and explore as much as their forefathers and in their homeland ! The glamour of Bombay must go, sooner or later.

Conclusions.

1. So Gujarat, originally called the "Garden of India," an age-old and peace loving province, has fallen on evil days due to certain natural disabilities as well as public negligence and bad administration. It has vast potentialities but now its good land has turned into bad land, its erstwhile flourishing ports have been silted up and rival harbours and cities have taken their place. Where there was greenness there is barrenness, towns have turned into villages and ruins are found in place of palaces.

2. The Parsees were destined to live the longest in this part of the country, with their haven of Sanjan fame as the starting point and with their cousins of Aryan descent, the Hindus, as their neighbours. They have given a valuable share in the cultural advancement and material progress of the province. Floods, famines and fires indeed drove them to Bombay and other prosperous British places in India.

3. They are wrongly supposed to have been living on the 'liquor' reputation. There was not a commodity found in Gujarat in which they did not deal and not a fertile piece of land which they did not care to occupy *without any religious susceptibilities and moral objections*. Freely too, they went abroad for trade and commerce from its ports.

4. "Back to the land" should now be their motto and they should give their proper share, as their wise forefathers did, in the planning and development programme of Gujarat. Together with the other peoples living in the region they can revive the industries; united they can turn it into a "happy garden" once again, can transform its lovely valleys into so many other Tennessee valleys and urbanise its prosperous villages to be the pride-giving idols of its cosmopolitan people.

5. The chances of their giving a further contribution to the growth of an All-India civilisation are very great indeed, apart from their religious aloofness, provided the youth is properly guided and educated.

* * * * *

Let us close this discourse with a few lines from a Parsee Cradle Song, composed in queer Gujarati but incidentally giving an idea of Parsee life in Gujarat in earlier times, apart from some fine sentiments :

“વનમાલી તો વનમે
વહાલાં તમે આયાં મારાં ઘરમે
મારાં ઘેર તો પહેલાં રે મરૂં
બાવાજીના ઘેર પુછી આયાં વહેલાં
તમે ભલે આયાં રે મરૂં.

તમે આયાં ને ઝોલી પાલણાં લાયાં
સુરત શહેરના સુથારો બોલાવું રે મરૂં
વહાલાં તમારા ઝોલી પાલણાં ધડાવું
સુરત શહેરના રંગારી બોલાવું રે મરૂં
વહાલાં તમારાં ઝોલી પાલણાં રંગાવું.

અમદાવાદનો ચીતારો બોલાવું રે મરૂં
મન ગમતા ચીતારો ચીતરાવું
જોડી મેં પાલણાં જરીયાં રે મરૂં
સોવણુ ખડકી મેં માએ ઉગમનાં મોરીયાં
ઉગમની મારી ઝોલી રે મરૂં.

મારાં રમે મરૂં માણેક મોતી પરવારાં
રમત લઇને રમે રે મરૂં
બાવાને મામાના લાલણાં જમો
બાવાજી બોલાવે રે મરૂં
ખોરે લઈ તમને બાવારે અપાવે.

ઘેર સોભે મારા નાધલાનાં પાલણાને ઝોરી
ઝોરીએ લીલાં નેત રે મરૂં

તમે આયાં મારાં રૂં રતન વેટ
ઝોરીએ ગુંગરા વાગેરે મરૂં
વહાલાં તમને જે પહેરાઈ તે જાને

ઝોરીએ હીરની દોરી રે મરૂં
પોટરીને ઉઠો મારા વાધલા રૂં ઘોરી
ઘોરી જીવે મારા જોડાં રે મરૂં
તમને રાખું મારી આંખ ને હૈયાં હેડાં
હૈયાં હેડી વહાલાંની માય રે મરૂં

મોટા થાજે મોલી રે મરૂં
સીવરાઈ તમને જલલાંસે ટોપી
જલલાં સીવાડે તમને ઘાટનાં રે મરૂં
પહેરીને ફરો તમારા બાવાજીના હાથનાં
ટોપી ખરા તાસની રે મરૂં.

પહેરીને ફરો તમારા બાવાજીને હાથની
ટોપી સીવણુ જીની રે મરૂં
પહેરાવે તમને ખરા કસબની ટીલી
ટોપી ઉપર બાવા રે મરૂં
લઈ આયા મારા નાધલાના બાવા.

ટોપી ઉપર મગજ રે મરૂં
સીવીને લઈ આયો સુરત શહેરનો દરજી
દરજી સીવણુ ખોટી રે મરૂં
ઉમર વધે મારાં નાધલાં તમારી મોટી.”

TRANSLATION

"The gardener is in the garden,
Darling, you have come to my house,
My house is the first to welcome you,
You have come in time, inquiring about Papa's house.
You are right welcome, dear one.

You have come and you have brought cradles with you,
I will get carpenters from Surat,
I will have cradles made for you, dear one,
I will get painters from Surat,
I will have your cradles painted, dear one.

I will get an artist from Ahmedabad,
And I will have choice pictures painted, dear one,
The swings are attached to the cradle, my dear one,
With the front in the east in the handsome front room of the house,
The cradle is placed in the east, my dear one.

My dear one plays in a proper manner with rubies, pearls and corals,
Play with your playthings, dear one,
Eat the eatables brought by your father and maternal uncle.
Papa wants you, dear one,
Holding you in the lap, he will caress you.

The house looks beautiful with my darling's cradle.
The cradle is tied with green strings.
You have come like a gem to me,
Merry bells are ringing on the cradle,
You look pretty, in whatever dress you are clothed.

The cradle has silk strings attached to it,
Arise after a good sleep, my dear little one.
May my elder dear one live long,
I will keep you under my own eyes and heart,
The darling's mamma is an affectionate mother.

Grow up (as big as the pillars of the house), my dear one.
I will have a frock and cap made for you,
I will have a satin frock and cap made for you.
Move about in the dresses ordered out by your father,
The cap shall be of real gold lace.

Put that on, your papa has got it made,
The cap is of fine workmanship.
You will have it of real gold embroidery.
There is a pattern on the cap,
It is brought by my darling's father.

There is a silk lace on the cap,
It is sewn and prepared by a tailor of Surat,
The tailor's workmanship is faulty,
May your age grow long, my dear one."

(J. J. Modi)

APPENDIX

Topographical and Historical Notes on Some Parsee Settlements in Gujarat.

BROACH—Also called Bharuch. Much older than the Surat settlement. The harbour is some 30 miles up the Narbada estuary and therefore safer from the onslaughts of the monsoon. Built on high and firm banks. Has a fertile hinterland of cotton and a trade route of old. Due to the silting up of the harbour as time went on, it was more and more difficult to approach and only small ships could move up.

It seems there were very old connections of Broach with Iran, even from Parthian times. Beheramgore, the Sassanian emperor, also came here. An old Tower of Silence is said to have been in existence since the 10th century A. D. There was a Dutch factory established here before the British came and the Parsees had some hand in the establishment of foreign trade connections with Broach and other Gujarat ports. Broach is another word for 'cotton.' There were many Parsee ginning factories in Broach. The Moors and the Arabs too had this port as their objective. Several old Dakhmas and Aghiaries are found. Water problem is acute, the river changes its course, and, as wells are difficult to maintain, underground tanks in Parsee houses are constructed. Some satellite towns and villages around Broach existed. Parsee Revayats (Correspondence between Iran and India) written here, in the earlier centuries.

SURAT—On the Tapti, an inferior harbour, as it is built on low and unstable ground. Superseded Broach after it fell into disuse due to silting nearly 40 miles higher up the bay, in the 16th century A.D. For some two centuries an important trade centre. Even large ships could enter the harbour in winter and small ships could go some 15 miles still higher up the mouth of the river. Broach was abandoned soon after the Cape route was discovered. Even Mahomedan pilgrims for Mecca sailed from this port. The first British settlement in Surat was established in 1613 and the Parsees rose here soon after. The Parsee prosperity in Surat can be gauged from the fact that two big Atash-e-Beherams were established in 1824 and there are several Puras or boroughs after Parsee names still in existence. Also, whenever there was a flood or famine in Surat and other peoples suffered much, the Parsees lived in comfort. In 1825 even when there was a trade depression, the Parsees as wealthy merchants, still traded with the East India Co. It was only after the great fire of Surat in 1837, after the American War of Independence (1857-1863), and also when the B. B. & C. I. R. came into existence that Bombay rose and Surat fell. The share mania of 1864-65 completed the Parsee downfall at Surat, though some Parsee weavers kept on their family traditions. The extent of the concentration of the Surat Parsee settlement can be gauged also from a large number of Parsee village settlements, shown in

the Map. Many of these still have a sprinkling of their population. In 1835 there were some 10,000 Parsees living here. To-day there are hardly 5,000 of them left. (For some Surat satellites, *vide* the Map).

NAVSARI—A town belonging to the Gaikwar State, established on the left bank of the Purna. The sea being some five miles away, the port is in a poor condition. But agricultural villages still persist and the Railway is a blessing. Climate is healthy.

It is rightly called "Parsi Rome", as the headquarters of Parsee priesthood and is believed to have been established in 1182 A.D.

Good agricultural land available. There is one part of Navsari, called Malesar (Maleksarah?) established much earlier by older batch of Zoroastrian Behedins, who took to agriculture in neighbouring villages, such as Vedchha, Kachholi, Sagra, Tavdi, Kachhiawadi, Vesma, Sisodra, Maroli, etc.

The Mohta Falia was an outcome of the establishment of the Iranshah by the priestly class and flourished during the 14th, 15th, 16th, and 17th centuries. Here is the place of a long quarrel between the Bhagaria (Sanjana) and the Kakaria Mobeds regarding the Iranshah.

Another prominent historical feature is the connection of Navsari with the Moghul Emperor Akbar, who first came to Kankra Khari a few miles north of it after the siege of Surat in 1573 and Dastur Meherji Rana first met him here. Later, he was invited to his court at Delhi. The Desais, big landlords, were profited by their loyalty to the Mughal rulers.

AHMEDABAD—Also situated on another river, the Sabarmati, and a great centre of cotton trade even now. Mill industry is the chief occupation of the Parsees, though some are also engaged in the railways. It is, therefore, the only old Parsee settlement in Gujarat, in which the Parsee population is found to be increasing, as the Bombay Mill industry dwindles and several Parsee mills are closed down in Bombay.

Ahmedabad has a good access to outcrops of rocks and as good building stone is available, there are many stone buildings and good architectural monuments chiefly Mahommedan, though the Parsees, on the whole are not great builders of monuments in India and have none in Upper Gujarat.

Dholela cotton is well-known. Good staple 6/8" to 7/8". Cotton cultivation is spread over 200,000 acres. Nearly 40% of the mill industries of the Bombay presidency are located here.

The old port of Cambay has fallen due to the inaccessibility of ships, but the railways have given a good fillip to Ahmedabad, as a junction of three main railway lines. It is here that there is the possibility of linking Gujarat with Sind by a direct railway.

BARODA—On the Vishvamitri, belongs to the Barola (Gaikwar) State. As the State is much advanced, it has a great political importance. Though the soil is not so good and the rainfall is not satisfactory, it is due to the progress the State has made in agriculture that it is possible to grow long-staple cotton in the districts, to the limit of one inch. Navsari belongs to this State and therefore

the Parsees have had very friendly relations with the Gaikwar, two of its former Diwans being Parsees, viz. Dadabhai Naoroji and Kershapji Dadachanji. Parsee pioneers in the sphere of education also hail from the Baroda State and there are fair chances of obtaining good agricultural land within the State in post-War reconstruction and planning. Already they hold good Jagirs from the Maharaja.

UDVADA—The Mecca of the Parsees. The original Holy Fire kindled by the Parsee Zoroastrians at Sanjan and on Barhot Mountain was transferred to Udvada in about 1742 A.D. and has been kept incessantly burning still here. Some crores of rupees worth of sandal wood, with which it is chiefly fed must have been burnt on it by now. Parsee Jagirs in Pardi and villages near by as gifts from native Rajas.

Is the only town in India entirely inhabited by Zoroastrians and guarded by Zoroastrian priests, called Mobeds. A scion of one of the original Dastur families is the Head of the temple which has been rebuilt frequently in recent years. As the male population of Udvada is engaged only in religious duties and ceremonies and as there is no other occupation, the people are generally poor, they are given small or big gifts by the pilgrims. The month of Adar, falling generally in May-June every year, is the time of a special pilgrimage undertaken by thousands of devoted Parsees.

BULSAR—Is an important railway centre and several Parsees are employed in it. Bulsar Parsees in former years were, however, engaged as farmers in the neighbouring Native States of Bansda and Dharampur, whose Rajas were their patrons. They also held Mowra farms and liquor shops in the States.

BILLIMORA—Another station with the sea nearby, has still a population of about 500 Parsees, several of whom belong to families of hereditary carpenters, boat builders, etc. They carried on a lucrative trade in former years in molasses, timber, even dried fish etc. according to the products found in the environment of this town and another called Gandevi in its neighbourhood, both belonging to the Gaikwar State. The Desais, as petty officers under the Gaikwar, had large holdings in these places. Jahanbordi, Devka-Daman and Nargole are sea-side resorts for Parsees living in Bombay and other places.

N.B.—On the whole, in Gujarata, "as landlords, merchants, petty traders and Government and railway contractors, Parsis held a respectable and prosperous positions. Parsis enjoyed almost a monopoly of liquor farms and liquor shops. They filled prominent posts in cotton and ginning factories. As lawyers, engineers and physicians, Parsis held their own with any other natives of India."

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NOTES ON THE GEOLOGY OF CUTCH

By

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Land is constantly being carried down into the sea or the beds of Lakes, by the action of rivers. Periods of upheaval, forced upwards by pressure of gas, by volcanic eruptions, by slow oozings of molten matter through cracks in the earth's surface or

by the slow breathings of Mother Earth, have varied this steady succession of sedimentation.

Below the Sea and below the Lakes, the fine molecules of silica, felspar, lime and humus are thus laid down in beds. Hence we get layers of sand, clay, marl or limestone or their mixtures.

At one time there was no Kutch. The Archæan Aravallis, made of granite, seem (from sea-soundings) to lie deep down under what is now Kutch and under the Arabian Sea, and to rise again in Somaliland. The Sediments accumulated over these hills for millions of years. Then the Earth breathed in its sleep and the upper beds of these sedimentary layers rose out of the sea, and Kutch was born.

Now the lowest beds that we have here coming to the surface are what are known to Geologists as those of the Middle Jurassics, so denoted by comparison of their fossils with those of the Jura Alps North of Geneva. Probably other lower beds, those of the Trias, the Carboniferous and the Devonians, lie deeper down. I may say that I still hope to find at the base of the 1,500 ft. high scarp of the Kala Dongar on Pachham Island in the Runn beds of the Lias era which normally underlie our Bathonians. I don't think that this scarp has yet been carefully explored for fossils.

To go back, Geologists have classified these Jurassics into three series : Lower, Middle and Upper, each with its sub-divisions based on their distinctive types of Ammonites and also flora.

The crust of the earth next took a hand in the game, and there came pressures or squeezings from the North or the South, forcing up the layers into hills with intervening valleys. Mainly these pressures came from the North, but I know of one area where the South took its turn and made a counter-attack. You judge this by the shape of the anticlines. As you press up a table-cloth with your finger point the wave is steeper on the pressed side with a modest slope on the opposite side. Most of our ranges in Central Kutch are scarped on their north side and a gradual slope on their south side. But near Kantkote in west Wagad the reverse is the case.

A glance at the geological map shows in reds the jurassic areas, lying across the middle and northerly parts of Kutch and re-appearing in the islands of Pachham, Kadir and Bela. These are seamed with lines or masses in dark green, which show outbreaks of volcanic matter through cracks in the earth's crust often you will find walls of very hard volcanic matter standing up and running for a mile or even several miles in generally straight lines.

I believe there is no other part of India where these Mid-Jurassics occur at the surface, except for some outcrops in Jesalmir and Baluchistan. These latter may be successive "waves" of our beds. The Gondwana beds are, I believe, of late Jurassic age.

Fringing these Jurassic beds of ours all along their south side, and curving northwards round their east and west ends comes a long 150 miles chain of basalt (volcanic) hills varying in width (N to S) from 4 to 10 miles. The molten stuff must have come out from a long crack or series of cracks, and poured over on each side. The actual vents are not visible. The low rounded domes with barely any trees except in the hollows and bearing a peculiar kind of grass are easily detectable

from a distance. The rocks as they appear in the nullas are a blackish grey, and the stones form the best-road-material.

Owing to the fact that as far as I have noted, there seems to have been little or no disturbance of the layers of adjacent Jurassics, I think the outbreaks may have been of a slow, gradual infiltration, e.g. the summit of Bhujia hill is of basalt which has come up through Jurassic shales, without noticeably dislocating them. Hence I suggest that this outbreak shows no violent outbursts, but only a slow oozing of the molten matter continuing through ages.

East, south and west in a concave arc fringing the outer edges of this long chain of basalt hills, there now lie the flat plains stretching away south to the gulf of Kutch. These are composed of tertiary beds, laid down in the sea æons after the Jurassics. The (generally) earthy matter is composed of sand or clay or marl or limestone. They have no ammonites. Ammonites died out in the long Cretaceous periods which succeeded the jurassics. The beds are practically undisturbed (as far as I have noted) and bear no dark green volcanic dykes on the maps. They are rich in materials for paints, alumina and fullers earth.

Up towards our N. W. corner, there is an unexpected outcrop of shales, at the foot of Ukra hill which contains ammonites of the 'crioceras' genus- which denotes deposit in Cretaceous times. As this crioceras bed occurs nowhere else in Kutch, it seems that in Cretaceous ages Kutch was mainland, but for a very short spell part of it sank low enough to admit an arm of the cretaceous seas, bringing their Cretaceous Crioceratids.

We can tell by the coal-beds that Kutch has been above the sea-level and down below it again quite four times. Perhaps the latest in-breathing of mother earth was rather fuller than usual and raised the new sea-beds into land. Sea shells at Vinjan and at Panchatia near Mandvi show that these parts anyhow are sea-beds and not just alluvial deposits of rivers nor of lakes.

In the cliffs of a nulla cutting through sedimentary rocks and earth, it is easy to measure the approximate depth of a stratum whether of clay, sand, loam or limestone, etc. The texture and the colour help one to form a fair idea. But we do find that one bed of (say) 5 ft. of blue clay has died out further on, or has grown to one of 10 ft.—and so on. The upper coal bed at Trambau is only some 8 inches. The next (lower) bed of it, perhaps 12 feet lower is of 13 inches. Athleta beds are in places 30 ft. thick, in others 100 ft. thick.

The high dome of a hill—such as Kera Hill overhanging the Runn has its upper strata peeled away, like the layers of a truncated onion.

In the nulla by Ler village, 8 miles S.-E. of Bhuj, there is a very clearly cut fault, upper Jurassic beds on the north side lying up against the golden coloured beds of the lower Jurassics. This fault extends for some 40 miles from Nunnao Hills on the west to south Ratnal on the east. It borders the foot of the Katrol-Charwar range of hills. Wynne and Fedden's work on Kutch geology marks on the map many such faults—in white lines. These faults where a thickness of upper Jurassic sandstones is brought up smartly against clay beds of the lower Jurassics through which the slowly percolating under-ground water cannot penetrate, are a fruitful source of good water supply. Many Kutch villages are to be found along this

line. They are also to be found where Jurassic beds with a south dip have been obstructed by the massive walls of the long and wide masses of the basalt hills of the Dhola and the Gaira, for these basalt hills have come up, as we saw, from the depths below the earth and are solid walls, except where they may have been cracked by earth tremors and quakes.

Along several miles of this 40 mile fault we find the golden coloured Dhosa Oolite ridge standing up on the south of the fault against the cold, barren, black and white beds of the upper Jurassics on the north side of the fault. Now at first this Dhosa Oolite, low, ridge was fairly continuous, though depressions in the earth's crust at intervals throw the D. O. further down below the surface and brings the Katrol beds (which overlie the D.O.) down to face the invasion of the upper Jurassics from the north. Streams coming down from the Katrol Hills have cut their way through the D.O. ridge, and by perpetual gnawing away of the grains of lime, clay and sand at the edges of their course, have thrown the long ridge into a string of elongated domes, each dome sinking at either end as the lower materials are carried away by the water.

It is a curious fact that streams running north towards the runn instead of finding the easiest way out round the foot of the north range along the plains till they could find an easy gap in the hills, have deliberately carved their way right through the mass of the north range, the materials of which are to no small extent hard and tough, including in places the stout walls of volcanic dykes e.g., at Jurun the black walls of the broken-through dykes stand out strongly from the cliff sides. I count on the map 10 such streams that have carved their way through these hill ranges. It is conceivable that, when Kutch emerged from the sea and the beds were more or less flat, rain streams meandered northwards. The squeezing up of the north range may have been a gradual æonic affair and the streams may have attacked these slowly-emerging grounds swellings one by one, till they had established a prescriptive right of way.

This long north range, running for 100 miles broken through by the streams here and there, and sometimes depressed to ground level, have the north side of their anticlines very steep, varying from 80 degrees to some 20. Up near Kera Hill I have seen sticking up out of the bed of the Runn the outer-skins of the hill-onions (i.e. the highest beds) standing up at close on 90 degrees.

Pacham Island in the Runn, a square of 14 miles, rises out of the Runn at a distance of 30 miles from the mainland. It has two big ranges of hills, one along its north edge, running west and east and rising at its highest point to 1500 ft. (Pachmai Pir); the other range, the Gora Dongar runs rather from W.-N.-W. to E.-S.-E. There is a wide hollow between broken by a small subsidiary range towards the W. end.

The two big ranges are coated with pavements of hard limestone slabs, approximating to Marble. The South dip of each is about 5 to 10 degrees S. Their geological level has been computed to be that of our lowest Jurassics, the Bathonian series. But ammonites are very rare. I found only one, too worn for identification. Previous explorers were no more fortunate. But on the north scarp of the Kala Dongar, where it descends (at one time sheer) into the runn proper, several

other fossil molluscs were found, and these caused the belief that the rocks were of Bathonian times.

As the Pachham beds found at Jumara on the mainland are full of corals, and identifiable ammonites are of a 'crumbled' nature, it is hard to reconcile the hard pavemental slabs of this Island with the crumbled facies of the Jumara beds. Recently I was given a specimen of the golden oolite brought from the island. Now the beds of Golden Oolite lie well over the Jumara Bathonians. If further exploration can produce beds of G. O., it looks as if we may not be able to give name of lowest beds to the island formation, but rather the name of Macrocephalous.

One more point. These Macrocephalous beds of the North Range with their overlying beds and underlying Bathonians, dive down under the Banni (i.e. the grassy runn that lives between the islands and the mainland) at steep angles. They come up again 30 miles north at a gentle slope of 5 to 10 degrees on to the islands. We don't know what subterranean crushings or quakes may have dislocated them. If they have not been seriously dislocated, it would seem that we have here a long trough underlying the Banni on to which the aeons of rain water and streams have been emptying their waters and as a fair percentage of water filters through the soil, there may well be a great store of water awaiting artesian borings. These should, if my surmise is correct, bring up a never-ceasing supply of water as do the Viramgam Artesians and those at and near Karagodha. We can only hope that such flows will not prove to be salty. I incline to think that as the clay beds of the Banni were probably beds formed by the Indus, and not by the sea, they will be found to be of sweet water. Unfortunately the war has intervened to prevent us from getting the necessary casings for deep borings, hence we have to bite our nails in impatience.

GURJARADESHA & GURJARAS *

By

P. G. SHAH

The global war has not affected serious authors and Mr. Munshi has advanced further, with his usual energy and vigour, his plan to write the history of modern Gujarat from the standpoint of the empire of Gurjaradesha, referred to in the first volume.

The new volume represents a bold attempt at the creation of a synthetic history of "the Imperial Gurjaras" who ruled over the ancient land of "Gurjaradesha" during what is described as the organic period from 550 to 1300 A.D. In the get up of the book, in the numerous maps, photogravures of architectural relics and of original inscriptions, in the large number of appendices containing original inscriptions in Sanskrit with their translations in English and in a succinct and complete index, the author has achieved a high level of erudite scholarship; and in bringing together the chronological tables, tabular statements and maps describing the feudatories of the first, second and third Empires, he has exhibited unusual industry and

* The Glory that was Gurjaradesha. [The Mularaj Solanki Millennial Celebration Volume] Part III. *The Imperial Gurjaras* by K. M. MUNSHI, President, Bharatiya Vidya Bhavan, Bombay 1944. pp. 284+X. with 6 maps and 12 plates. Rs. 15.

perspicacity. Although it may not be possible to agree with many of the fundamental conclusions reached, it must be said that the volume will remain for long a source-book for the History of Gujarat, and provide an inspiration to scholars for more further work. It is however remarkable that some of the material collected in this volume provides evidence would go against one or two of the most cherished theories of the learned author.

The main thesis of Mr. Munshi is that the history of modern Gujarat cannot be understood without a study of the rulers of other dynasties who governed the great Gujaradesha, which stretched from the West Punjab to the Mahi and which moulded the history of India by withstanding Arab aggression for nearly two centuries, "In the 6th Century, this old Gurjaradesha consisted of Rajputana, Malwa and Gujarat and was from Vedic times inhabited by a homogeneous people, speaking one language distinguished from that of Maharashtra on the one hand, and of Madhyadesha on the other." The geographical limits of this hypothetical Gurjaradesa at the time of Yuan Chwang were Saurashtra with Vardhamanpuri, modern Wadhwan, as the eastern limit, Sarasvata Mandala or the valley of the Sarasvati river and the Abu region round Bhillamala. This Bhillamala which was evidently founded by the ancient Bhils and converted into Shrimala forms the pivot of Gurjaradesha from which go forth empire builders—Gurjar Pratiharas of Kanauj. These pratiharas subjugated the southern Parts of the empire viz. Anarta (Vadnagar), Lat (Broach) and Khetaka (Kheda) Mandalas, as also Medapata (Mewad), Dungarpur, Banswara, Dholpur, Sakambhari and Malwa. To these clans of Gurjar Pratiharas were allied the Parmaras, Chapa, Chahamanas, Chalukyas and Guhilots, who governed the various parts of Gurjardesa. At one time two other provinces, Jejabhukti, modern Bundelkhand, and Kanyakubja-bhukti, which included Kalanjaravisaya, and Varanasi-visaya, were imperial provinces also governed by the Imperial Gurjars. "These four Ksatriya clans of Pratiharas, Parmaras, Chapas (Chavdas), Chalukyas, who were connected by blood and tradition and by the country of their origin Gurjaradesha, remained closely knit in high adventure and imperial ambition throughout the period from 550-1300 A.C. These clans were indigenous and homogeneous and had nothing to do with Gurjars or Huns from whom they were supposed by some historians to have originated." In this attempt to bring organic unity in the history of the period it is difficult to say that Mr. Munshi has succeeded in convincing an impartial reader. In the first place, the author does not do adequate justice to the kings of Saurashtra who since ancient times had founded a big empire with Girinagar as the centre. Further, though the Pratihara kings ruled supreme in the period 740 to 940 A. C. with Mihirbhoja as the Emperor, (835-888), though the Parmaras of Dhar during the reign of Bhoja attained supremacy and though the glorious period of Solanki history in Gujarat produced such brilliant kings as Sidharaj Jaysinha, Kumarapala and such brilliant scholars and administrators as Hemchandra, Vastupala and Tejpala, it is difficult to be convinced that these rulers were all governed by one common political purpose or by even a common or homogeneous cultural link. Apart from these towering personalities, there is little justification for the disjointed kingdoms being described as forming Empires. The so-called Empire consisted of tribal or local ruling families who formed clans perpetually at war in their struggle for internal supremacy. They sometimes did temporarily acquire large territories, but there was hardly

any strong political or religious bond helping towards the unity or continuity of an Imperial Government.

Even the seat of the empire was not a fixed one ; and as Mr. Munshi himself states it was "being shifted from Shrimala (Bhillamala) to Jhalor, from Jhalor to Ujjayini, from Ujjayini to Kanyakubja, and thence to Dhara and Anhilwad." During the dark ages of Indian history, when inroads of foreign tribes and the advent of Islam gradually undermined the vigor of Hindu culture, the fighting clans seldom showed signs of even a strong confederacy and much less of an Imperial life. In Mr. Munshi's own words, "Bhima, Prithviraj and Jaychandra, in spite of internal jealousies were all combined in sentiments against the hated Mlecchas, but fought the enemy only in turns instead of in concert." If the Gurjaradesha was comprised of such a region and was held together by such feeble ties, it is hardly justifiable to describe it as a historical entity.

The same sense of frustration and dissatisfaction faces the reader when he seeks to examine the second obiter dictum of Mr. Munshi that the term "Gurjar" refers to a region and not to a people, and that the "Gurjaras" were not foreigners but indigenous to the soil. Mr. Munshi's theory is expressed on p. 5-6 of his book "In the seventh Century A.C., a certain tract in modern Rajputana was known by the name of Gurjar. Its inhabitants were divided into Brahmanas, Kashtriyas, Vaishyas and Shudras and were similar in race and culture to others of North India. They with the people who occupied Lata, Saurashtra, Mālwa, Anarta and Ujjayini formed a homogeneous people. The people residing in this tract whenever they migrated to other parts of the country were known as Gurjars from the name of their homeland, just as residents of other provinces like Gauda, Lata and Dravida are known by the respective names of their homelands. The rulers of Gurjaradesha politically consolidated the surrounding parts of which the people were homogeneous." The main accepted fact regarding the "Gurjaras" as an ethnological unit is that the people known as Gurjaras from a very big tribe (whether you call them foreigners or not) who had settled colonies in Kashmir hills, in the submontane territories of the Himalayan region, and are still known as Gurjars in the Punjab, U.P. Gujarat etc. It is a pity that the historical outlook of the author is dimmed by this theory of the local origin of the Gurjaras. The author's view that Aryans were indigenous to Gujarat, expressed so fervently in his book "Early Aryans in Gujarat" finds a rebirth in this volume and he asserts again that the ancestors of the higher classes of the modern Rajputana, Malwa and Gujarat were, in the 6th Century after Christ, deeply steeped in the highest traditions of Aryan Culture and know "no other origin or motherland." Such an atmosphere of verisimilitudes has been erected round this theory that, it is necessary to examine it in greater detail.

An edifice built upon merely epigraphic evidence without the support of enthnological and linguistic evidence is bound to collapse. The essential facts against the theory of local origin of Gurjaras are :

i) There is no epigraphic or literary evidence of the Gurjaras having been mentioned either as a tribe or country till 6th Century A. D. and Gurjars must have come into the country from outside, at a later date. Mr. Munshi has no evidence to show that when the new name Gurjaradesha was coined, it had originated from an

older country known as such in more ancient literature. Even if the word Gurjara was of Sanskrit origin and was connected with cow keeping (which is even now the occupation of thousands of Gurjars at present) the arid land of Rajputana could not provide either cows or cowherds in abundance.

ii) Gurjaras were never known as kings till 11th Century and there is no trace of a pure Gurjar ruling dynasty, though a region Gurjaratrā is known as having been protected by "Gurjaras".

iii) The Gurjaras are known to have Colonies in the Punjab, Latadesh, even now Gujars are known in far off places as Kashmir, U. P. Gujarat and Konkan. Coins of Vyagramukha, the Chapa King of Bhillmal, were formed with the Huna coins of 6th and 7th Century in Hoshiarpur District showing the communication between the areas.

iv) The Gurjaras could not have originated suddenly from Bhillamala region which was the "pivot of Gurjaradesha". The fact that this region was known as Gurjaratrā, protected by Gurjars, lends favour to the theory that the Bhills of Bhillamala were conquered by the Gurjar tribes which colonised in these parts, and were later known by the sanskritised name Gurjaras.

v) The language* spoken by these settlers indicates that while the few ruling families were established by Gurjars in Punjab and Rajputana, the tribe mainly remained agricultural and was settled in the Sapadalaksha, the submontane region of the Himalayas consisting of a lakh and quarter hills.

If the above facts are recognised, it is easy to solve the tangled problem of origin of Gujars. The Gurjara Pratihara kings of Kanouj may be considered as conquerors of the Gujar tribe, which was of a later origin than 5th Century. If this is accepted, there is no difficulty in agreeing with Shri Gourishankar Oza and Mr. Munshi that the Agnikula origin of Paramaras, Chaulukyas, pratihars and Chouhans is as mythical as the so-called solar and lunar origin of certain Rajput tribe. Even now the Solanki rulers of Bansda state are described as Somvansi Solankis while Solankis of Lunawada State are known as Agnikula Solankis—both these origins must be considered as having mythical and symbolical rather than historical significance.

The Gujars formed a separate and virile tribe which did come from the North and had colonies in the various parts described later as Gurjaradesha. Evidently these Gujar tribes formed a turbulent and strong section of the population and the country was known after them in the same way as the whole of Kathiawar is known after a few hundreds of Kathis who acquired notoriety during the Mughal rule owing to their militant and evidently anti-social habits. The Gujar tribes which primarily settled in the Punjab, Kashmir and submontane region of the Himalayans were an agricultural tribe. Their system of sharehold land tenure—the Bhagdari and narvadar tenures are common both in the Punjab and in Kaira District indicating a common migration. Certain clans of Gujars had evidently helped to found a new order of security in Bhillimalla by ousting the Bhils; the protection offered by the Gujar tribes against the Bhils was at one time valued so much that this part of the country came to be known as Gurjaratra in Sanskrit i.e. protected by Gujar tribes.

* See Journal of Gujarat Research Society Oct. 1939 p. 19.

In course of time, these Gujars proved so troublesome that the pratihars of Kanauj who conquered and absorbed them were known as Gurjar Pratiharas. Gujars (not the Sanskritised Gurjaras) were a distinct tribe unknown in previous historical records of India, who established large colonies in the Punjab, Kashmir, the sub-montane regions of the Himalayas, and in Rajputana, and slowly migrated southwards leading to creation of sprinklings of castes known as Gujar Brahmans, Gujar Vaishyas, Gujar Rajputs etc. Their virility and strength gave them an importance for several centuries which however dwindled later into such insignificance that no ruling families wanted to be known by that name. The Gujars remain, at present, mainly an agricultural people, well-known sometimes as milkmen, in the Punjab, the U. P. and Kashmir. Further anthropological research is necessary to show whether these Gujars belong to a single racial type, and whether it has remained unaltered. We hope research in this direction will not be delayed, for even though it may not prove whether the Gujars are a foreign tribe or not, it would show whether they form an ethnological group with a claim to an independent racial type.

Whatever be the final verdict of history on the question of the Gurjars and Gurjaradesha, modern Gujarat owes a deep debt of gratitude to Mr. Munshi for the great interest he has aroused in these subjects and the further research it is likely to lead to. We hope that in the subsequent volumes Mr. Munshi will steer clear of all doubtful theories and secure greater pre-eminence in the field of historical science.

NOTES.

We regret the delay in the publication of the Journal for April. Owing to various difficulties mainly connected with printing, it has been decided to print the two issues for April and July as one Number.

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This issue contains a large number of articles on subjects connected with science and has, therefore, been called Special Science Number. But the reviews of books, etc. have not been restricted to scientific subjects.

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The Council of Management of the Society has decided that the Society's Medal for the best research article appearing in the issues of its Journal during 1944 should be awarded to Dr. T. N. Dave, M.A., Ph.D. (London), for his articles on researches on 'Linguistic Survey of the Borderlands of Gujarat'.

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પોપણનો અભ્યાસ*

ડૉ. બી. બી. ચૌધ

ગુજરાત સંશોધન મંડળના આટલા વખતની પ્રવૃત્તિઓમાં ગુજરાતી કુટુંબોની આર્થિક અને આહારવિષયક તપાસ એ એક મુખ્ય કહેવાય. આ અહેવાલ બહાર પડ્યા પછી આ વિષે ચર્ચા પણ ઠીક ઠીક થઈ. આ તપાસ જે પ્રમાણમાં આપણે કરી શક્યા તેના કરતાં વધારે બહોળા પ્રમાણમાં થવી જોઈતી હતી અને વખતની અનુકૂળતા આવશે ત્યારે એમ થશે પણ ખરું.

આ તપાસનો ઉદ્દેશ સાધારણ આર્થિક સ્થિતિવાળા ગુજરાતી કુટુંબો પોતાની આવક કેવી રીતે ખર્ચે છે, ખોરાક કેવા અને કેટલો લે છે, તેમાંથી કેટલું પોપણ મેળવી શકે છે, તેમના શરિરના બંધારણ તથા તેમની સાધારણ શારિરિક ફરિયાદો વગેરે કેવા પ્રકારની હોય છે તે શોધી કાઢવાનો હતો.

શરીરનો બાંધો અને સારી તંદુરસ્તીએ બનેલો આધાર ઘણી ચીજોને ઉપર રહેલો છે. માથાપ અને પૂર્વજો પાસેથી મેળવેલી તંદુરસ્તી, રહેવાનો પ્રદેશ, આજુબાજુનું વાતાવરણ, માનસિક ખીલવણી, આવી ગયેલી માંદગીઓ, ને ખોરાક એ બધાનો અભ્યાસ સાથે થાય તો પોપણનો અભ્યાસ બરોબર થયો એમ ગણાય.

ખોરાકમાં શું શું હોવું જાઝમે, કેટલા પ્રમાણમાં દરેક ચીજ હોવી જોઈએ, આપણા ખોરાકમાં શી ખામીઓ છે અને તે ખામીઓને નાબુદ શી રીતે કરી શકાય તે વિષે ઘણી ખરી માહિતીઓ આપણા મંડળની પત્રિકાઓમાંથી મળશે માટે તે વિષે હું આજે બહુ કહેવા માંગતો નથી. પરંતુ આપણી ખાવાની રીત, આજુબાજુનું વાતાવરણ ને માનસિક શાન્તિ એ વિષે થોડું કહીશ. ખોરાક પચવાને માટે પહેલાં તો જેને આપણે ભૂખ કહીએ છીએ તે પુરતા પ્રમાણમાં હોવી જોઈએ. ભૂખ બરોબર લાગી હોય તો ખોરાક પચવાના રસો, મોંની અમી, હોજરીનો રસ ને આંતરડામાં થતા બીજા રસો બરોબર પેદા થાય. ભૂખ ક્યારે લાગે કે જ્યારે શરીરને કસરત મળી હોય, મન શાંત હોય ને ખોરાક સારી રીતે રંધાયો અને પીરસાયો હોય ત્યારે. આપણે જો બરોબર વિચાર કરીએ તો આમાંથી લગભગ બધી ચીજોની ઉણપ આપણામાં હોય છે. નિશાળો અને ઓફિસોના વખત એવા હોય છે કે આપણું ખરું જમવાનું સવારના આઠ, નવ ને દસની અંદર હોય છે. સવારે સાતે ઉઠીને આઠે દૂધ પીવાય ને નવે જમવા બેસાય તો કસરત ક્યાં, ભૂખ ક્યાં ને શાંત વાતાવરણ ક્યાં? એટલે નિશાળે જતા બાળકો ને કામ ઉપર જતા માણસો બનેને, ધારીએ કે ખોરાક બરોબર મળતો હોય, તો પણ તેનો પચાવ બરોબર ન જ થઈ શકે. પહેલાં તો તે પૂરતા પ્રમાણમાં ખાઈ ન શકે ને બીજું જેમ તેમ ખાય તો પચાવી ન શકે અને ન પચે તો બીજી ફરિયાદ ઉત્પન્ન થાય ને પોપણ બરોબર ન જ મળે.

જે વખત સવારે રસોઈ ન કરવી પડે એટલે સ્ત્રીઓ પણ જરા મોડું, નિશાળને ઓફિસની વ્યક્તિઓ પતાવીને પછી, ઈંડુ થયેલું-વઘેલું હોય તે પ્રમાણે જમી લે એટલે એ લોકોની તંદુરસ્તીને પણ જરૂર નુકશાન થાય.

આ વિષયનો અભ્યાસ આરિકાઈથી કરવાની જરૂર ઘણી લાગે છે, અને જો એમ જણાય કે આ રીતે સવારે જમવાથી ખોરાક બરોબર લેવાય નહિ ને પચે નહિ ને તેથી પણ તંદુરસ્તી ન જળવાય તો તેના ઉપાય લેવા જાઝમે. બીજો એક વર્ગ એવો છે, ખાસ કરીને દુકાનવાળા, ગુમાસ્તા વગેરે કે જેઓ બપોરના દોડતા દોડતા જમવા આવે, જેમતેમ પેટ ભરીને પાછા દોડતા દુકાને જાય-આ બધું અડધા કલાકમાં પતાવીને.

* ન્યાયમૂર્તિ સર હરસિદ્ધલાઈ દીવેડીઆના પ્રમુખપદે તારીખ ૩ માર્ચ, ૧૯૪૫ ના દિવસે મંડળની વાર્ષિક સભા ભરાયેલી તે પ્રસંગે મંડળના સભાસદો સમક્ષ આપેલા પ્રવચનનો સાર.

આ લોકોને ભૂખ વખતે લાગી હોય-પણ ઉતાવળે ખાધેલો ખોરાક પચાવવાનો રસ અરોઅર થયો નહિ હોય ને મળે નહિ તેથી પણ તંદુરસ્તી ન જળવાય. આ વર્ગની પૂરી રીતે તપાસ થવી જોઈએ અને એમને ખોરાક માટેનો વખત પૂરતા પ્રમાણમાં મળવો જોઈએ.

મુંબઈમાં સાધારણ અને ગરીબ સ્થિતિના માણસોમાં મને એ વર્ગની તંદુરસ્તી સારી હોય એમ દેખાય છે-કચ્છીઓ અને ગોદીમાંના ઘાટીઓ. આ વર્ગની તંદુરસ્તી એમના ખોરાકને કે રહેણી કરણીને કે શાને આભારી છે તેનો અભ્યાસ કરવો જરૂરી લાગે છે. મને લાગે છે કે 'કેલોરી'માં ને ખોરાકની ભતમાં ગુજરાતીઓ કરતાં ઘણા ફરક માલુમ નહિ પડે પરંતુ શારિરીક કસરતમાં, ખુલ્લામાં ફરવામાં ને ચિન્તા વગરના વાતાવરણમાં તેમની તંદુરસ્તીનું રહસ્ય મળશે. આની ખાતરી પણ અભ્યાસથી થવી જરૂરી છે. એ લોકો ખોરાકમાં ગુજરાતીઓ કરતાં જરૂર ઓછું ખરચતાં હશે, એમના ખોરાકમાં પ્રાણીજ પ્રોટીન જરૂર ઓછું-હશે, વીટામીન A પણ વખતે પૂરતા પ્રમાણમાં નહિ હોય, પરંતુ તંદુરસ્તી જરૂર વધારે સારી હોય છે. પોષણ ઉપર ખોરાક સિવાય બીજી બધી બાબતોની શું અસર છે અને એ બધી બાબતો આપણી છંદગીમાં અને આપણી રહેણીકરણીમાં કેટલા પ્રમાણમાં છે તેનો અભ્યાસ જરૂરી છે. જેમ આર્થિક અને આહાર વિષયક તપાસ થઈ તેમ માનસિક વાતાવરણની તપાસ પણ આજ વર્ગમાં થાય તો આપણે આપણી તંદુરસ્તીના વિષયમાં જરૂર આગળ વધીશું.

હવે જરા ખોરાક વિષે વિચાર કરીએ. ખોરાકની ઉણપ સિવાય પણ આપણા ખોરાકમાં પ્રમાણ અરોઅર રહેતું નથી એ આપણે જાણીએ છીએ.

દૂધ મળે તો પણ ગુજરાતી સ્ત્રીઓ તે પી નથી શકતી તે જાણીતી વાત છે. પ્રેક્ટિસમાં દૂધની વાત કરીએ તો એમજ કહેવામાં આવે કે દૂધ પચતું નથી ને તેનાથી વાયુ થાય છે કે ઝાડા થાય છે. આનું કારણ શોધવાની જરૂર છે, ઘણીવાર તો કારણ ફક્ત માનસિક જ હોય છે. ઘેર ન લઈ શકતા હોય પણ ઈસ્પિતાલમાં તે જ લોકો દૂધ સારી રીતે લઈ શકે છે ને પચાવી શકે છે. ફરસાણનું પ્રમાણ વધારે હોય છે તે પણ સાધારણ જાણીતી વાત છે. તે ઉપરાંત મિઠાઈ ને કઠોળનું પ્રમાણ ઘણા કુટુંબમાં વધારે રહે છે. આ ચીજો કેટલા પ્રમાણમાં પચાવી શકાય એવી છે અને કેટલા પ્રમાણમાં પચાવી શકાય એવી નથી એ વિષેનો અભ્યાસ કાઢીએ કર્યો હોય એમ મને લાગતું નથી. એ કામ પણ આપણે કરવું જરૂરી છે. ભાટિયા કામમાં ઘીનો પ્રચાર ઘણા પ્રમાણમાં છે, મિઠાઈ પણ ઠીક ઠીક લેવાય છે. પણ તે લોકો આ ખોરાક પચાવી શકતા નથી એમ તો ન જ કહેવાય. ચરબી શરીરમાં વધારે ખડકાય છે એ ખરું. એ લોકોમાં કયા રોગો વધારે છે તેનો પણ અભ્યાસ કરવો જરૂરી છે.

હવે આપણે આપણો ખોરાક સાધારણ અંગ્રેજી ખોરાક સાથે સરખાવીએ અને એમાંથી શીખવાનું શું મળે છે તે જોઈએ.

પહેલાં એ લોકોના ખોરાકના વખત આપણા કરતાં સાધારણ જુદા હોય છે.

સવારના વહેલી-ચ્હા પીએ-એકાદ ખીસ્કીટ સાથે ૮ થી ૧૦ વાગે પહેલું ખાણું.

ઇંદુ-એકન-એડ-ને ચ્હા કે કૉફી-માછલી કાઈ વખત.

૧-૨ વાગે-એડ, મીટ, અથવા માછલી સ્વીટ, શાકભાજી, કૉફી, ફ્રુટ.

૪ વાગે-ચ્હા, ખીસ્કીટ, ફ્રુટ.

૮ વાગે-સુપ, એડ, ફીશ, મીટ, ફ્રુટ, શાક, સ્વીટ, કૉફી. થંડા પ્રદેશમાં વધારે ભૂખ લાગે ને પ્રોટીન વધારે જોઈએ એ આપણે સમજીએ.

એક રીત સમજવા જેવી એ કે પોતાની ઇચ્છા હોય તે પ્રમાણે પોતાની મેજેજ લેવાનું હોય, પીરસી રાખેલું નહિ કે બધું સાથે નહિ.

હવે આપણી રીત જોઈએ—

સવારે ચ્હા એકલી.

૯-૧૦ વાગે ખાવાનું—શાક, દાળ, રોટલી, ભાત, દહી, ઘાશ.

કાર્બ વખત ફરસાણુ, કુટ નહિ, મિઠાઈ, કઠોળ. આ રીતે બધું સાથે હોવાથી કાર્બ ચીજનું કેટલું પ્રમાણ ખોરાકમાં રહેલું જોઈએ તેની સમજણ પડતી નથી. દૂધપાક કે શિખંડ હોય, વાલ કે વટાણા હોય તો તેનું પ્રમાણ વધી જાય અને બીજી ચીજોનું પ્રમાણ ઓછું થઈ જાય. ઘણીવાર બધું પચી જાય અને કાર્બ થાય નહિ. કોઈકવાર પેટ ભારે થઈ જાય ને બગડે પણ ખરું. ભજીયાં, પાતરાં તો જોડે હોય જ. તળેલી ચીજ વધારે પ્રમાણમાં ખાવાથી પચવામાં શો વાંધો પડે તેની ખબર ખરાબ નથી. વાંધો પડે છે તો ખરો એ આપણે અનુભવથી કહી શકીએ. આ રીતે આપણા ખોરાકની વાનીઓનો, તૈયાર થયા પછી તે કેટલી પચે છે તે કેટલા પ્રમાણમાં ખાઈ શકાય તેનો અભ્યાસ કરવો જરૂરી છે. હું જાણું છું ત્યાં સુધી કોઈએ એ અભ્યાસ પણ કર્યો નથી. અનુભવથી એમ કહેવાય કે મિઠાઈ કે ફરસાણું પ્રમાણ ખોરાકમાં માપસર ને થોડું જ હોવું જોઈએ પણ તે કેટલું તે અભ્યાસ સિવાય કહી શકાય નહિ. આ જાતનો અભ્યાસ યુરોપમાં થયેલો છે અને અહીં થઈ શકે એમ છે.

ખોરાકની (analysis) તપાસ—ખાંધા પછી—પેટના રસની તપાસ—હોજરીમાં કેટલી વાર રહે છે, કેટલા પ્રમાણમાં પચે છે, તે બધું તંદુરસ્ત વર્ગ તપાસવાને તૈયાર હોય તો જરૂર થઈ શકે.

માંદગીમાં પોષણની ખાસ જરૂર રહે છે, તાવમાં, ખાસ કરીને શરીરમાં metabolism વધારે થવાને લીધે, પોષણ વધારે જોઈએ. એ ચાર દિવસના તાવમાં ને અપચા સાથે તાવ હોય તો પોષણ ઓછું હોય તો ચાલે. પણ તાવ લંબાય તો પોષણનું પ્રમાણ વધારે જોઈએજ. આપણા ખોરાકમાં આપણે શું આપી શકીએ, ક્યારે આપી શકીએ, શું ન આપીએ, શાનાથી નુકશાન થાય તે વિષેનો અભ્યાસ પણ કોઈએ કર્યો નથી. ઘણું ખરું તો વૈદક ઉપરથી અને અંગ્રેજી ચોપડીઓના આધારે આ ખવાય અને આ ના ખવાય એવી સલાહ આપીએ. પરંતુ શા માટે ન ખવાય, શું નુકશાન થાય તે કોઈ અભ્યાસપૂર્વક કહી શકતું નથી. આ અભ્યાસ પણ જરૂર થઈ શકે અને તે થાય ત્યાર પછીજ માંદગીમાં આપી શકાય એવા ખોરાક વિષે આપણે ભારપૂર્વક અભિપ્રાય આપી શકીએ.

ટાઈફોઈડના તાવમાં પોષણનો સવાલ લઈએ—તાવ લાંબો છે—આંતરડામાં સોજો છે—વધારે પોષણની જરૂર છે. પરંતુ કેવી જાતનો અને કયો ખોરાક આપી શકાય એ વિષેનો કોઈનો અભ્યાસ નથી.

ઘણાખરા બીજા દર્દો વિષે પણ આ જ સ્થિતિ છે. આયુર્વેદમાં ખોરાક વિષે ઘણું વિવેચન છે. ખોરાકના ગુણદોષ ઘણા વર્ણવ્યા છે. પરંતુ તેમના કેટલા અનુભવ સિદ્ધ છે, કેટલા તે વગરના છે, શાને ગુણ કહેવાય ને શાને દોષ કહેવાય તે વિષે ઉંડાણથી તપાસ થવાની જરૂર છે.

ગુજરાત સંશોધન મંડળે ખોરાક વિષે, પોષણ વિષે, તંદુરસ્તી વિષે જે કામ કરવાનું છે તેમાંનું થોડુંક તમારી આગળ મૂકવાનો આજે મારો પ્રયત્ન છે. આ બધી જાતની તપાસને માટે ઘણો ખર્ચ થાય એ સ્વાભાવિક છે. આ ખર્ચ પુરો કરવાને માટે ગુજરાત સંશોધન મંડળને આર્થિક અને વૈજ્ઞાનિક મદદ મળવાને માટે વાંધો નહીં આવે મારી ખાત્રી છે.

મંડળને રૂ. ૧,૦૦૦ આપી શેઠ શ્રી નવીનચંદ્ર મહતલાલ ડૉનર-મેમ્બર થયા છે. આ સ્થળે તેમનો આભાર માનવાની તક લઈએ છીએ.

REVIEWS

*Prehistoric Research in Gujarat.** Research is now no longer the privilege of the Western nations and a large number of Nobel Laureates and Fellows of Royal Society elected recently from the scientists of India leave no doubt as to the capacity of Indians for the highest type of research in subjects as wide apart as Physics or Mathematics, Chemistry or Palæontology. Prehistoric research in India was given an impetus by R. B. K. N. Dikshit, then Director General of Archaeology who in his presidential address to the Anthropology section of the Science Congress at Madras in 1940 mentioned among many other subjects of research the following one:—"The very important results concerning the sequence of palæolithic and neolithic established by Foote after examining the section of the bed of the Sabarmati in Gujarat ought to be repeated and the existence or otherwise of the hiatus between the upper palæolithic and neolithic ages confirmed or modified." It was the vision, fore-sight, enthusiasm, and encouragement by R. B. Dikshit that led to the initiation of the first Gujarat Pre-historic Expedition in 1941-1942. An account of this first exhibition is given by its leader Dr. H. D. Sankalia in the Journal of the Gujarat Research Society for April 1943. The second year's working in the same area is described by Dr. Sankalia in the New Indian Antiquary for April 1944. The third year's work is published in this handy booklet of 16 pages which is illustrated by excellent plates, photographs and maps.

The finds of excavations this year are more remarkable than those in the past. In the top-most $2\frac{1}{2}$ feet layers, the majority of the finds was *potsherds* from wheel-made pottery. In the next two feet, the potsherds are smooth, dull-brown on face and coarse inside, evidently handmade. At lower depths, potsherds disappeared completely and only microliths and hands remained. Besides there were "ruddles" or "rubbers" in situ, saddle querns, neoliths, beads, bone remains of unidentified animals, bone tools etc. Among the human remains were found long bones, several skeletons and numerous skulls. The authors state that the height, the slenderness of the bones, the smallness of the joints, the relatively very long lower arms, the dolichocephaly, the well-developed occipital region, the very slightly negroid appearance of one of the skulls, as also the smallness of the pelvic bones would suggest at the present state of enquiry, that the skeleton show hamitic negroid characteristics and are of people akin to those of the North-East Africa and perhaps to proto-Egyptians."

In the opinion of the authors "microlithic people started living on the mound at a time when it was lower than at present and stayed for some generations. Some time, perhaps, a few centuries, perhaps a thousand years elapsed while the mound was being washed away, reaching almost its present contour when the pottery people, came and occupied the whole of the mound and the surrounding country." The

* "Preliminary Report on the third Gujarat Prehistoric Expedition" by Dr. H. D. Sankalia, Dr. Irawati Karve and "Human Remains Discovered so far" by Dr. I. Karve and Dr. G. M. Kurulkar. Deccan College Research Institute, Poona, pp. 16, plates IX, two Maps. Price Rs. 6-8-0.

present investigators confirm the observation of Bruce Foot that the palæolithic man was separated from the neolithic but they proceed further and describe the distance between the two stages by 40 feet of more or less and reddish silt. The exact duration is likely to be much more than a thousand years mentioned above if a foot of soil requires several thousand years to build up.

Two remarkable discoveries may be noted here. One is a circular ring like object of whitish coarse quartzite with a central hole ; this is perhaps not perfectly round or uniformly thick as in the case of ringstones of the Mohenjodaro excavations. Another is a daggerlike neolith similar to some neoliths of S. E. India. These remains establish great antiquity of the civilization under discussion which was certainly much more ancient than the Mohenjo-daro culture which seemed till recently to record the highwater mark of antiquity in ancient Indian history. We wish Dr. Sankalia and his party further success in the research work undertaken by them and we hope that they will extend the work to other river beds in Gujarat, which owing to their nature and history of formation, are capable of yielding much better results than investigation elsewhere.

P. G. S.

Races and Cultures of India, by Dr. D. N. MUZUMDAR, Lucknow University. Published by Kitabistan, Allahabad. Pages 299, 6 maps. Price Rs. 5-4-0.

It is indeed a strange paradox that the republic of Plato was built on the conception of an aristocracy of rulers of his ideal state, and he took infinite pains on training this aristocracy himself. No less attention is devoted to the training of the Indian Civil Service to whose custody are entrusted the teeming millions of India. Maxmuller's book "India and what it teaches us" was based on the lectures given by that orientalist to the members of the Indian Civil Service during their training in London. The present book is the out-come of a course of lectures delivered in April 1940 to the I. C. S. Probationers and minor chiefs who were receiving their training at Dehru Dun. Sir Theodore Tasker the officer in charge exhibited his keen appreciation of anthropology when he decided to secure this training at the hand of an experienced and trained anthropologist like Dr. D. N. Muzumdar. It is remarkable that the lectures have been placed in a book form within a short period, in spite of all the difficulties connected with the printing and paper supply. The author has a charming style and his exposition of the difficult subject of anthropology secures both clarity and brevity, while his mastery of the subject provides a great variety of reading material.

The author has constantly kept before him his aim of presenting within the compass of this small book the entire field of Indian anthropology in the light of new methods and materials, and also of giving short outlines of the main problems regarding primitive culture in India. The first chapter describing the racial factors in Indian culture makes interesting reading, even though rendered somewhat difficult by the inclusion of technical details regarding anthropometric measurements, which are however essential, when presenting a scientific description of the various racial types. The chapter on the blood map of India, explaining the use of blood groups as indices of racial relationship presents a lucid description of the system of distinguishing races on the basis of blood groups. In this respect the author's own work in the last few years has been of great value and importance. Although

bloodgroup testing is in the elementary stage at present and although it is not possible to construct complete migration charts of races on the basis of blood groups data, interesting facts have been collected regarding several tribes. The low percentage of the incident of 'B' groups indicates the higher degree of isolation of a racial type such as has been noticed in the case of Bhills, Paniyans, Naga tribes and the Konyaks. The percentage of 'B' increases as a group or a tribe become heterogeneous by being swelled by inter mixture or conversion as in the case of Mohamedans of Bengal. It is significant that among the Muslim population outside India the value for 'B' is much lower than that for the Indian Muslim. Maps showing distribution of nasal indices and cephalic indices and of coefficient of racial likeness also have been well charted out. The coefficient of racial likeness between Brahmins and Rajputs is so high that the two castes may be taken as samples of the same population, a fact which has been well-known in the case of Nagar Brahmins and the Rajputs of Mewad for whom great historical relationship has been established, in the story of the founder Bappa Raval.

The two chapters on origins of castes and caste incompetence are interesting essays in social anthropology bordering on sociology. The subject would have gained in depth if better use had been made of the Sanskrit literature on caste which has recently appeared in the recent translation of Grihya Sutras, and also in books like "History of Dharmashastras" by Mahamahopadhyaya Kane. The tendency of European scholars to ignore the historical background of Indian primitive cultures need not be copied by Indian anthropologists. Those connected with the learned Universities can easily obtain the help of the Sanskrit departments in unravelling the origins of Indian social institutions and customs some of which have continued for the last three thousand years with but few changes. We hope that the author will include in the next edition of the book further information about the culture of India and their origin based on relevant ancient Indian literature.

The chapters on habitant, economy, and society as well as economic grading give interesting descriptions of certain typical primitive tribes in Northern India particularly the Kharias, the Kukis and the Gonds. The economic factors affecting the culture of these tribes have been described with sympathy and understanding. The chapters on totemism and social structure and kinship categories display a deep study of the subject, while that on the primitive religion, including among others a theory explaining the phenomena of Bongaism as personally observed by the author among the Hos of Bihar, is a remarkable contribution.

The chapters on youth organisations, marriage and sex, and polyandry form probably the most interesting portions of the book and are likely to appeal to many readers. The description of the Golgadhedo ceremony among the Panch Mahal Bhils, and that of the Gotol dormitories of the Murias which the author explored in the dark hours of early morning with an electric torch, as also the description of the polyandrous customs of the Khasas of Jaunsar Bawar, all bear the stamp of personal investigation by the author. The concluding chapter on anthropology and society contains a spirited appeal for the acculturation of the tribal areas and tribes. "Suitable adaptation of alien traits are necessary not only in the interests of the tribes concerned, but also of the country as a whole, for unity of culture and uniformity of beliefs and ideas are essential for national solidarity". Though not an

isolationist, the author pleads for special treatment for the primitive tribes and depressed castes, and suggests that the "transition must be effected in such a way that the tribal people may not get detribalised, for it is as much necessary to adopt new ideas and behaviour patterns as it is to conserve indigenous customs and institutions of social and survival value. "The large number of primitive and backward tribes and castes in India show that these have effected an adjustment to the force of their environment and possess sufficient vitality to exist and perpetuate their kind. It is the duty of the advanced sections of the people to assist in this struggle for survival and of the administration to watch their interests and protect them from undue interference by the foreign elements of population in tribal areas and also from overzealous officers." This task must be undertaken with proper knowledge and preparation, and the familiarity with anthropology must be considered an essential factor in the equipment of all district administrative officers. Books of this type supply a longfelt want and it is hoped that they will be made full use of. The study of "Races and Cultures of India" is in this book restricted to the primitive types and to this extent the title may not be considered literally correct, though the author explains it to represent the "study of cultures, particularly that which is liked by the majority of people, the tribes and the less advanced castes." We would also have welcomed one or two chapters on the language and literature of the primitive tribes. Dr. Grierson has devoted in his 'Linguistic Survey of India' considerable space to the languages spoken by the primitive tribes. Much research work about the languages of the primitive tribes has been since carried out. We would have also welcomed a more exhaustive review of the folk-literature, folktales and folksongs of the primitive tribes. Let us hope that these subjects will not be left untouched when a revised edition of the book is prepared.

Yet the book is the most comprehensive one written so far on Indian anthropology and is sure to be valued highly by the students of anthropology, laymen and others interested in cultural progress of India. It will long remain a standard book of Indian anthropology. The frequent references to the cultural life of the Bhils among whom the author has moved are of special interest to the people of Gujarat. The author and the reader are both fortunate in securing the excellent get up of the book at the hands of the "Kitabistan", Allahabad. Half a dozen maps and tables as well as a succinct index enhance the value of the book.

P. G. S.

Archaeology and Ancient Indian History, by Jnānaratna Dr. Hirānand SHĀSTRĪ, M.A., M.O.L., D.Litt., published by Gujarat Vernacular Society, Ahmedabad in 1944. Price Rs. 3.

This is the 21st of the series of the Research Publications of the Post Graduate Department of the Society. It is a collection of four lectures delivered by the author under the auspices of the Society. They cover pp. 3 to 92 of the Demi Octavo size and are illustrated by 26 plates. The printing of the text and general get up of the book is quite good, but the reproduction of plates is far from satisfactory.

The title of the book is a bit vague, for it forms the subject matter of only the first lecture (pp. 3-16). The second lecture (pp. 17-46) is a bird's eye view of some of the important monuments of Gujarat and Kathiawar. The third lecture (pp. 47-87)

deals with the importance and antiquities of Nalanda, while in the fourth lecture, the author discusses the sources of the cultural history of Gujarāt and Kathiāwār.

The treatment of the subject is rather brief, perhaps because of the limitation of time and space at the disposal of the author. All the same, it infuses patriotism and pride for the national treasures in the mind of a reader. It gives a general idea of the importance and richness of the antiquities and antiquarian remains of this country in a popular style and brings home to the mind of the student the need for going deeper into the subject.

Some of the conclusions are controversial and wanting in the requisite corroboration. For example, (i) the finds of Bogazkoi near Ankara (Turkey) about 5,000 years old have a similarity with the present headress of Kutch and hence the relation between the two countries is established; (ii) the dark complexion of Vishnu and Krishna are suggestive of their being of non-Aryan origin; (iii) the finds from Rangpur in Limbdi State are contemporary with the antiquities of the Indus Valley civilization; (iv) "Paliya" is derived from the word Pal meaning to protect, while the generally accepted meaning—'boundary'—is not acceptable to the author.

While discussing the antiquarian remains of Gujarat the author has missed some important ones such as the architectural gems of Delwara temples and the ruins of Vallabhipur. As the author has included Southern and Eastern Rajputana in his scope, one would expect some light on the history and archæology of the ancient capital of Gujarat also, which under the present political division, is included in Rajputana.

There are no footnotes and no references to authorities. Orientation is an accepted policy of the latest research methods. One would expect a higher standard if the work has to be styled as a research publication of the post-graduate Department, although it imparts a good deal of information not known to a general reader. As popular literature on history and archæology, the publication is certainly very interesting and instructive.

R. G. G.

The Gandhian Plan of Economic Development of India, by Principal S. N. AGARWAL.
Padma Publications, Bombay, pp. 115. Rs. 2-8.

After the 'Bombay Plan' and the 'People's Plan' comes the 'Gandhian Plan,' embodying a study of the principles and ideas underlying Gandhian Economics and an economic plan based on these principles. The author contrasts Gandhiji's economic ideas with the western capitalist system as also the Soviet economy and shows how even the latter involves absence of individual freedom and of economic equality. Nor can we solve the problem of full employment for our masses with the help of large scale industries.

The author's exposition raises many questions, his own answers to which are not quite convincing. For example, is it possible to raise our *per capita* income to four times its present level with the help of village industries only and within the limits of self-sufficiency? Under the restrictions prescribed by the author, our manufactures cannot possibly maintain themselves against foreign competition; under the circumstances will the home industries be patronised by the people even though their products will be far more costly than those of foreign industries? Is the long list of

the big industries he would allow compatible with Gandhian ideas discussed earlier in the book? Similarly is Gandhian Economics compatible with planning? These are not unimportant questions.

We should however feel grateful to Principal Agarwal for attempting to present in a systematic form Gandhiji's ideas on Economics and for formulating a plan based on these ideas. The author has taken pains and he provokes us to think.

T. B. D.

Your Food, by M. R. MASANI, published for Tata Sons Ltd., by Padma Publications Ltd., Bombay, pp. 82, Re. 1.

Mr. M. R. Masani, the author of that fine little book 'Our India,' gives us an equally lucid and interesting publication on the various aspects of our food problem.

Why should we eat? How much should we eat? Which are the different types of food? What is a balanced diet? These are among the questions answered in the earlier portions of the book. Discussing India's food problem the author shows how if each of us took the food we require eleven or twelve crores of us would have to go completely hungry. He explodes the myth that the scarcity of food in the country is due to the increase in population and points to poverty as the cause of this difficulty.

In discussing the remedies, Mr. Masani rightly emphasises intensive cultivation as the main method of increasing our food supplies. The iniquitous and unsympathetic land revenue system and, what is more important, the farmer's want of capital resources, are amongst other factors that need emphasis. Rapid and many sided industrialisation, as a part of an integrated planned economy, is of course the final solution of our problem of poverty, and with it of inadequate food supplies.

This is a very readable and useful publication and should be translated into all Indian languages. In this connection it may be mentioned that in Gujarati at least some valuable literature on the subject is already available, the result of the efforts of the Gujarat Research Society.

T. B. D.

હંસાડલી—અસાઈ નાયક રચિત (વિ. સં. ૧૪૧૭), ગ્રંથ ૧ મૂલમાત્ર, સંપાદક પં. કેશવરામ કાશીરામ શાસ્ત્રી, પ્રકાશક ગુજરાત વર્નાક્યુલર સોસાયટી, અમદાવાદ, ૧૯૪૫, પૃ. ૧૧૦, કીંમત દોઢ રૂપિયો.

પ્રાચીન કાવ્યરત્નોતો અભ્યાસ વધતો જાય છે એ ગૂજરાતના પ્રતિભાવિકાસનું એક સુચિત્ત છે. હજી અનેક તેજસ્વી કાવ્યરત્નો જૈન અને જૈનેતર સરસ્વતીભંડારોમાં અભ્યાસી સંપાદકોની રાહ જોતાં અંધકારમાં પડેલાં છે. એ સર્વ પ્રકાશમાં આવશે ત્યારે જ ગૂજરાતની મધ્યકાલીન કાવ્યસંપત્તિનું સાચું મૂલ્ય અંકારશે, અને અનેક ભિન્નભિન્ન સાહિત્યસ્વરૂપોના ઊગમની આવી પ્રાપ્ત થશે.

પ્રસ્તુત હંસાડલી કાવ્ય અસાઈત નાયકનું * ચાર ખંડમાં રચેલું કથાકાવ્ય છે. એનો રચનાકાળ સં. ૧૪૧૭ નો છે, એટલે અત્યારસુધીમાં પ્રાપ્ત થયેલી જૈનેતર રચનાઓમાં એ સૌથી પ્રાચીન છે. આથી

* અસાઈતના જીવનચરિત્ર સંબંધે જુઓ શ્રી. કે. કા. શાસ્ત્રી કૃત 'કવિચરિત્ર' ભાગ-૧.

ભાષાદષ્ટિએ આ કાવ્યનું મહત્ત્વ ધણું છે. આવી મૂલ્યવાન કૃતિનું પં. કે. ડા. શાસ્ત્રીએ ત્રણ હસ્તપ્રતે ઉપરથી કાળજીપૂર્વક સંપાદન કર્યું છે એ માટે એમને ધન્યવાદ ધટે છે.

હંસાઝલીનું કથાવસ્તુ પ્રાચીન અને મધ્યકાલીન સાહિત્યમાં બહુ લોકપ્રિય લાગે છે. પાત્રોનાં નામાન્તરે એનું ઘટક કથાવસ્તુ ધણા વાર્તાગ્રંથોમાં પ્રાપ્ત થાય છે. એથી સં. ૧૬૨૧ માં મતિસુંદર નામના જૈન સાધુ કવિએ અસાધિતના કાવ્યની પૂર્વપીઠિકા૩૫ની 'હંસાઝલીપૂર્વમવચરિત' રચી છે. આ જ પ્રકારની શિવદાસની 'હંસા' છે, પણ એમાં થોડાક ભાગમાં પાત્રોનાં નામો બદલાયાં છે. આથી સંપાદક એ બંને કથાઓને અસાધિતમાંથી નહીં, પણ કાઠબીજન જ વાર્તાપ્રવાહમાંથી આવેલી માને છે.

પ્રસ્તુત અસાધિતના કાવ્યની પાંચ પ્રતિઓ નોંધાઈ છે. બે હાથપ્રતો-સં. ૧૫૧૩ અને સં. ૧૫૫૬-ની નોંધ 'જૈન ગુર્જર કવિઓ' ભાગ ૧ લામાં લેવામાં આવી છે, પણ એ સંપાદકને પ્રાપ્ત થઈ શકી નથી. એટલે બાકીની ત્રણ પ્રતિઓ-લખ્યા સંવત્ ૧૬૭૬ ની, ૧૭૨૦ ની અને ૧૮૮૪ ની-જે ગુજરાત વર્નાક્યુલર સોસાયટીના દલપતરામ હસ્તલિખિત પુસ્તકસંગ્રહમાં છે, તેમના ઉપરથી શ્રી. કે. ડા. શાસ્ત્રીએ આ કાવ્યનું સંપાદન કર્યું છે. એ ત્રણ પ્રતિઓને સંપાદકે અનુક્રમે અ, બ અને ક સંજ્ઞા આપી છે. સંપાદકે સામાન્ય રીતે સં. ૧૬૭૬ માં ઉતારાયેલી અ પ્રતિને મુખ્ય ગણીને તેના ઉપરથી જ કાવ્યની વાચના તૈયાર કરી છે. અ પ્રતિ લખ્યાસમય અનુસાર સૌથી જૂની છે, અને અન્ય બંને પ્રતો કરતાં વધારે શુદ્ધ પણ છે. અની વાચનામાં જ્યાં ખાસ પ્રગટ ક્ષતિ જણાતી હોય ત્યાં સંપાદકે પાઠ સંસ્કારીને નીચે લીટી દોરીને સુધારો દર્શાવ્યો છે. પ્રત બ અને ક માંથી પાદટીપમાં પાઠાન્તરો આપ્યાં છે. આ રીતે કાળજીપૂર્વક અને શાસ્ત્રીયતાથી કાવ્યનું સંપાદન કરવામાં આવ્યું છે.

એક સંપાદનની પદ્ધતિ પરત્વે આ વિષયના બધા અભ્યાસીઓ સહમત થાય તેમ નથી. એક જ પ્રત ઉપરથી કાવ્યની વાચના સર્વાંશે તૈયાર કરવામાં બે કારણ હોય : કાં તો એ પ્રત રચનાકાળથી બહુ નજીકના સમયમાં ઉતારાઈ હોવાથી વાચના મૂળને ચીવટથી અનુસરતી હોવાનો ધણો સંભવ હોય; અથવા તો અન્ય સહાયક પ્રતિઓ એટલી બધી અશુદ્ધ હોય કે એમનો સહયોગ (collation) કરવાથી કાવ્યના વાચના બ્રજ થવાનો પૂરેપૂરો સંભવ હોય. અહીં ત્રણે પ્રતિઓ મૂળથી કાલાનુસારે એટલી વિદૂર છે કે એમનું પરસ્પરનું પૌર્વાપર્ય ખાસ ઉપયોગી થતું નથી. એક અ પ્રત વધારે શુદ્ધ છે, પણ બ એવી અશુદ્ધ નથી કે અની સાથે એનો સહયોગ ન કરી શકાય. કેટલેક સ્થળે તો બ વધારે જૂનું ભાષાસ્વરૂપ સાચવી રાખે છે, અને ધણીવાર અ પ્રત કરતાં વધારે પ્રામાણિક પાઠો આપે છે. નીચેનાં થોડાંક ઉદાહરણોથી આ વાતની પ્રતીતિ થશે.

અ પ્રતિ

થયું પ્રમાત	(૧-૧૧)
રાજદૂયારે પુહુતા બેઝ	(૧-૨૬)
ગુપતિ બોલ રાષે આપણ	(૧-૨૭)
યાત્રા છિ હીયહિ ઘરી	(૧-૨૮)
તમ વીસાસ અછિ અમતણ	(૧-૪૨)
અમે છબ્યા તમારા પાય	(૧-૬૧)

બ પ્રતિ

હુઝુ પ્રમાત	
રાજદૂઆરહ પુહુતા બિહુ	
ગુપતબોલ રાષિઝ આપણઝ	
યાત્ર છહ્ હઈહઈ ઘરી	
તમ વીશાસ અછહ અમહતણઝ	
હવહ દ્વ છબૂ તમારા પાય	

આમ સ્થળે સ્થળે બ પ્રતનો પાઠ અ કરતાં વધુ પ્રાચીન ભાષાસ્વરૂપ જાળવે છે, તેમ એનો વાચનાનિર્ણયમાં સહયોગ ન કરી શકાય એવી અશુદ્ધિઓ પણ એમાં ખાસ નથી.

આજ રીતે ઘણે સ્થળે બ પ્રતનો પાઠ વધારે સમુચિત લાગે છે, અને ધણીવાર એને ક પ્રત સમર્થન પણ આપતી હોય છે.

અ પ્રત	વ પ્રત	ક પ્રત
(i) રાજ કરિ તિહાં નરવાહન રાહ (૧-૪)	રાજ કરિ નરવાહન રાય	રાજ કરે નરવાહન રાય
(ii) શાષિરવદ્...પ્રાસાદ (૧-૫)	સીષરવદ્...પ્રાસાદ	સષરવંદ...પોસાય
(iii) ચારિ વરણ-વરણાંતરિ વસિ (૧-૬)	ચ્યારિ વરણ તિહાં ઉત્તમ વસિ	વરાંણ ચાર વસાનો વાસ
(iv) થયુ ગુણદોસ (૧-૧૪)	થયુ ઘણદોસ	
(v) કીડ પરગણૂ ફૂલફલપાન (૧-૪૧)	કીડ પરગણૂ ફોફલપાન	કીધો જવાર લેડ ફોફલપાન
(vi) ગત-પૂરવ-ભવ-વીતક કહિ (૧-૫૪)	પૂરવ ભવની વાતજ કહિ	કથા પૂરવભવની કહી
(vii) પૂજિ (મ) પ્રતિમાનિ તું દેવિ (૧-૬૦)	હુ તૂ પુરુષ ન મારિ હેવ	પરપુરુષ તું માંને દેવ
(viii) રાજ ન રહિણિ રહિ (૧-૨૯)	રાજ કિમ સૂનૂ રહિ	રાજ સુનૂ ક્યંમ રહિ

ઉપરનાં થોડાંક નમૂનાનાં ઉદાહરણોથી પ્રતીત થશે કે અ નો પાઠ સર્વત્ર બ કરતાં ચડિયાતો નથી. (i) (ii) (v) (vii) (viii) માં તે બ નો પાઠ અ કરતાં વધારે સ્વીકાર્ય જણાશે.

બ પ્રતિ અ કરતાં થોડી મોડી ઉતારાઈ છે માટે એનું મૂળ (original) અ નાં મૂળ કરતાં ઉત્તરકાલીન જ હશે એમ માનવું યોગ્ય નથી. બંનેનું ભાષાસ્વરૂપ બંનેમાં એમ અવશ્ય લાગે કે બંનેનાં મૂળ લગભગ સમાન ભૂમિકામાં ઉતારાયેલાં હશે. આથી કાવ્યના વાચનાનિર્ણયમાં અ અને બ બંનેના સમુચિત સહયોગની સહજ જ અપેક્ષા રહે છે.

સંપાદનની પદ્ધતિની અપૂર્ણતાનું ખરું કારણુ તે એ છે કે અર્વાચીન ભારતીય ભાષાઓમાં સંપાદનના સિદ્ધાન્તોની યોગ્ય વિચારણા થઈ નથી. સંસ્કૃતપ્રાકૃતમાં પ્રાચીન સાહિત્યના વાચનાનિર્ણય (textual criticism) સંબંધે ઘણી વિચારણા થઈ છે અને કેટલાક અહુમાન્ય સિદ્ધાન્તો સ્વીકારાયા છે, જેને અનુસરીને સંસ્કૃતપ્રાકૃતમાં કેટલાંક પ્રમાણભૂત સંપાદનો થયાં છે. ભાષકરકર ઇન્સ્ટીટ્યુટ દ્વારા સંપાદિત થતું મહાભારત આનું જ્વલંત ઉદાહરણ છે. પ્રાચીન શિષ્ટ ભાષાઓ (classical languages) ને અનુલક્ષીને વિચારાયેલી સંપાદનપદ્ધતિ અર્વાચીન ભારતીય ભાષાઓમાં એજ રૂપે લાગુ પાડી શકાય તેમ નથી, કારણુ કે એ ઉત્તરકાલીન ભાષાઓનું સ્વરૂપ સૈકાઓ સુધી ક્રમશઃ પરિવર્તન પામતું આવ્યું છે. આથી એકજ મૂળ કાવ્યની ભિન્નભિન્ન સમયે ઉતારાયેલી પ્રતિઓમાં ભાષાસ્વરૂપ નિરનિરાળું નજરે પડે છે. આ સતતવાદી ભાષાવિકાસ પ્રતિઓના યથેચ્છ સહયોગમાં બાધાકર્તા નીવડે છે.

અર્વાચીન ભારતીય ભાષાઓ માટે પ્રાચીન શિષ્ટ ભાષાનાં સંપાદનોની પદ્ધતિને અનુસરતી છતાં એની વિશેષતાઓને અનુકૂળ થાય તેટલે અંશે સ્વતંત્ર એવી સંપાદનપદ્ધતિ તૈયાર થવાની જરૂર છે. એ માટે ભિન્નભિન્ન પ્રકારની હસ્તપ્રતો ઉપરથી ચીવટથી કરેલાં સંપાદનોની આવશ્યકતા રહે છે. આવાં સંખ્યાબંધ સંપાદનો ભાષામાં હોય તો એમના સૂક્ષ્મ તુલનાત્મક અભ્યાસ દ્વારા એક વિશિષ્ટ સંપાદનપદ્ધતિ ઉત્ક્રાન્ત થાય. પરંતુ અલ્પપર્યંત તે ગૂજરાતીમરાઠી જેવી પ્રાચીન ભાષાઓમાં પ્રાચીન કાવ્યોમાં કેવળ ગણતર શાસ્ત્રીય સંપાદનો થયાં છે.

ગૂજરાતીમાં આગળનાં સંપાદનોમાં વાચનાનિર્ણયની કોઈ વિશિષ્ટ પદ્ધતિ અખત્યાર કરવામાં આવી નહોતી, પણ સંપાદકને ઠીક લાગે તે તે પાઠ ભિન્નભિન્ન પ્રતિઓમાંથી ઉપાડી લઈને વાચના તૈયાર કરવામાં આવતી. આ રીતના સંપાદનમાં ભિન્નભિન્ન પ્રતિઓનો સંકર થાય, પણ મૂળનું પ્રતિનિધિત્વ ભાગ્યેજ આવી શકે. પછીનાં સંપાદનોમાં કેટલેક અંશે પદ્ધતિ બદલાઈ. શ્રી. કે. કા. શાસ્ત્રીએ આ સંબંધે એવો વ્યવહારુ માર્ગ સૂચવ્યો છે કે વધારે પ્રતિઓ જે પાઠ આપતી હોય તે સ્વીકાર્ય ગણવો. આ પદ્ધતિ વ્યવહારુ છે તેટલી સંતોષકારક નથી. ઘણીવાર એમ બને કે એકજ પ્રતિ સૌથી જૂની ને વિશ્વસનીય હોય અને બીજી પાંચસાત પ્રતિઓ ઉત્તરકાલીન અને પ્રમાણમાં અશુદ્ધ હોય. ત્યારે પ્રતિઓની અહુમતિવાળો પાઠ શી રીતે સ્વીકારાય? આ કેવળ કાદપનિક સ્થિતિ નથી; કેટલાંક સંસ્કૃતપ્રાકૃત સંપાદનોમાં પ્રતિઓની આ

પ્રકારની વ્યવસ્થા જણાઈ છે. ત્રીજી હમણાં હમણાં પ્રચલિત પદ્ધતિ એ એકજ શુદ્ધ અને પ્રાચીન પ્રતિને મુખ્ય ગણી એની વાચના આપવાની, અને અન્ય પ્રતિઓનાં પાઠાન્તરો પાઠટીપમાં નોંધવાની છે. ઉપર ચર્ચા કરી ગયા તે પ્રમાણે કેટલાક સંયોગોમાં (પ્રતિ અતિ પ્રાચીન હોય, કે એકજ પ્રત શુદ્ધ હોય અને બાકીની ઘણી ભ્રષ્ટ હોય ત્યારે) એ પદ્ધતિ વિલક્ષણ રીતે ઉપયોગી અને અનિવાર્ય બને છે.

પણ અંતે તો સંપાદકનો ઉદ્દેશ બધી પ્રતિઓનો ઝીણવટથી તુલનાત્મક અભ્યાસ કરી મૂળનો પાઠ કયો હશે એ વિચારી મૂળ વાચનાનો પુનરુદ્ધાર કરવાનો છે. એમાં પ્રતિઓની પાઠસમાનતા ઉપરથી પરસ્પર સંગતિ મેળવી, એમની વંશાવલી ગોઠવી, ક્રમેક્રમે મૂળ સુધી પહોંચી મૂળની વાચના ભખી કરવાની રહે છે. આમાં અતિ શાસ્ત્રીય સૂક્ષ્મ સંતુલના આવશ્યક છે. આ આદર્શને અર્વાચીન ભારતીય ભાષાઓનાં સંપાદનોએ સિદ્ધ કરવાનો છે. એમાં હસ્તપ્રતોના સ્વરૂપાનુસાર નિરનિરાળી પદ્ધતિએ ચીવટથી શાસ્ત્રીયરીતે કરેલાં વિશ્વસનીય સંપાદનો અત્યંત ઉપકારક નીવડે. એવાં ઘણાં સંપાદનો સમક્ષ હોય તો એમના ગુણદોષ એમની વિશિષ્ટતા વગેરેના અભ્યાસથી ધીમેધીમે આદર્શ સંપાદનપદ્ધતિ નિશ્ચિત થતી જાય.

પ્રસ્તુત કાવ્યમાં સંપાદકે પોતે સ્વીકારેલી પદ્ધતિ ખૂબ કાળજીપૂર્વક અનુસરીને ચીવટથી વાચના તૈયાર કરી છે. પાઠટીપોમાં અન્ય પ્રતિઓનાં પાઠાન્તરો આપ્યાં છે. ‡ પરિશિષ્ટમાં મતિસુંદરચિત હંસાડલીપૂર્વભવચરિત (સં. ૧૬૨૧) આપ્યું છે. ટીકાનટિપ્પણ-ઉપોદ્ધાત-શબ્દસૂચિ વગેરે બીજા ભાગમાં આવશે. એ પણ વિદ્વાન સંપાદકની કલમને શોભા આપે એવાં હશે એવી આશા રાખીએ. એકંદરે આ સંપાદનથી આપણાં પ્રાચીન કાવ્યોનાં ગણતર સંપાદનોમાં એક સરસ ઉમેરો થાય છે, અને એ માટે સંપાદક શ્રી. કે. કા. શાસ્ત્રી, અને સંશોધન માટે હોંશીલી સંસ્થા ગુજરાત વર્નાક્યુલર સોસાયટી ધન્યવાદને પાત્ર બને છે.

કાન્તિલાલ બ. વ્યાસ

અભિધર્મ—વ્યાખ્યાતા અધ્યા૦ ધર્માનંદ કોસંખી, પ્રકાશક ગુજરાત વર્નાક્યુલર સોસાયટી, અમદાવાદ, ૧૯૪૪, પૃ. ૮૬, કીંમત એ રૂપિયા.

‘અભિધર્મ’ એ બૌદ્ધ તત્ત્વજ્ઞાનના અતિમહત્ત્વના દાર્શનિક ગ્રંથ વિષે અધ્યા૦ ધર્માનંદ કોસંખીનાં ગુજરાત વર્નાક્યુલર સોસાયટીના ઉચ્ચ અભ્યાસ અને સંશોધન વિભાગ સમક્ષ આપેલાં પાંચ વ્યાખ્યાનોનો સંગ્રહ છે. અધ્યાપક કોસંખી બૌદ્ધ ધર્મ અને સાહિત્યના જગતભરના વિદ્વાનોમાં માનવંત સ્થાનના અધિકારી છે. લંકા, બ્રહ્મદેશ વગેરે સ્થળોનાં બૌદ્ધ જ્ઞાનપીઠોમાં વસીને સમર્થ બૌદ્ધ ભિક્ષુઓના અન્તેવાસી બનીને પ્રાપ્ત કરેલું પ્રત્યક્ષ જીવંત જ્ઞાન એમનું છે. જીવનભરની વિદ્યોપાસનાથી ઉપાર્જન કરેલા એમના જ્ઞાનનું એમણે કલકત્તા વિશ્વવિદ્યાલય, ગુજરાત વિદ્યાપીઠનું પુરાતત્ત્વ મંદિર, અમેરિકાનું હાર્વર્ડ વિશ્વવિદ્યાલય વગેરે સ્થળે અમૂલ્ય વિતરણ કર્યું છે. એમણે ગુજરાત પુરાતત્ત્વમંદિરને અર્પણ કરેલો હસ્તલિખિત બૌદ્ધ ગ્રંથાદિનો સંગ્રહ એમના બૌદ્ધ સાહિત્યના ચિરવ્યાસંગની સાક્ષી પૂરે છે. આવા સમર્થ વિદ્વાનનું એમના અભિમત વિષય બૌદ્ધ સાહિત્ય સંબંધેનું કોઈપણ પ્રવચન અપૂર્વ તેજસ્વિતા અને તલસ્પર્શિતાવાળું હોય એમાં નવાઈ નથી.

એવો પ્રસ્તુત ‘અભિધર્મ’ ગ્રંથ છે. એમાં એમણે બૌદ્ધ ધર્મના ‘અભિધર્મપિટક’ નામના કૂટ દાર્શનિક ગ્રંથનો નિયોડ આપ્યો છે. મિસિસ રૂહાઈસ ડેવિડ્ઝ એને માનસશાસ્ત્રીય નીતિશાસ્ત્ર તરીકે ઓળખાવે છે. આ ગ્રંથ વિષેનાં અને વસ્તુતઃ બૌદ્ધ ધર્મ સાહિત્ય વિષેનાં આ પ્રકારનાં પ્રમાણભૂત વ્યાખ્યાનો ગુજરાતી સાહિત્યમાં તો પહેલી વાર જ મળે છે. આ ગ્રંથમાં આરંભમાં ‘અભિધર્મ’ દર્શનનો ઉદ્ભવ સમજાવી, પછી ક્રમશઃ અભિધર્મદર્શનનાં પ્રકરણોની સર્વગ્રાહી છતાં સંક્ષિપ્ત રૂપે આપ્યાં છે.

‡ પાઠાન્તરોની પાઠટીપ તદ્દવિદાજ ઉપયોગ કરી શકે તેવી સંક્ષેપાત્મક છે. કવચિત્ કવચિત્ એમાં અસપષ્ટતા પણ રહે છે. જૂનાં કાવ્યોનો તુલનાત્મક અભ્યાસ સામાન્ય વાચકો અને સાધારણ કક્ષાના અભ્યાસીઓ પણ કરે એવી અપેક્ષા રાખીએ તો થોડુંક પુનરાવર્તન થવાનો ભય વહોરી લઇને પણ સ્પષ્ટ રીતે સહસૈવ સમજી શકાય તેવી રીતે પાઠાન્તરો આપવાં ઘટે.

ભગવાન યુદ્ધ અને એમના પ્રમુખ શ્રાવકોએ કરેલા ઉપદેશોનો સંગ્રહ સુતપિટકમાં કરેલો છે. તેમાંના સારભૂત ધર્મોનું (પદાર્થોનું) સંપૂર્ણ અને વિશેષ પ્રતિપાદન કરવાના હેતુથી અભિધર્મની રચના કરવામાં આવેલી છે. એનો સમય વિદ્વાનો અશોકના ઉત્તરકાલનો ગણે છે.

વૈદિકયુગના અરણ્યવાસી, તપસ્વી, કારુણિક, શાન્તમના ઋષિઓના તપશ્ચર્યા દ્વારા મોક્ષના સંપ્રદાયમાંથી શ્રમણસંસ્કૃતિનો ઉદય થયો. શ્રમણસંસ્કૃતિની તપશ્ચર્યાની પછીના બ્રાહ્મણો અને ઋષિઓ ઉપર અસર થઈ. યુદ્ધકાલમાં શ્રમણોની ભૂતદયાપ્રધાન તપશ્ચર્યામાંથી શ્રમણોના આત્મવાદની ઉત્પત્તિ થઈ. કરુણાપાત્ર ભૂતો એટલે કોણ ? દેહ તો નહીંજ; પણ દેહમાં રહેનારો કર્તાકારયિતા સત્ત્વ કે પુદ્ગલરૂપ આત્મા, જેનો ભોધ થતાં મોક્ષની પ્રાપ્તિ થાય. નિર્ગુણ શ્રમણો (પ્રાચીન જૈન શ્રમણો) તો વનસ્પતિકાય અને જલકાયને પણ દુઃખ ન થાય એવી રીતે જીવન ગાળતા. આત્માની સમજણ સંબંધે શ્રમણોમાં ઘણા મતો હતા. કેટલાક આત્માને દૈવાધીન માનતા, જેનો વિકાસ સ્વપ્રયાસથી ન થઈ શકે. કેટલાક પંચમહા-ભૂતોનું મિશ્રણ થતાં આત્માનો અવિર્ભાવ આપોઆપ થઈ જતો ગણતા.

ભગવાન યુદ્ધના સમયમાં આત્મવાદ ઘણો પ્રચલિત હતો. એમણે જોયું કે આત્મસુકિતના આદર્શથી માણસમાત્ર પ્રત્યે કેવળ અનાસ્થા ઉત્પન્ન થતી હતી, તેમ તપશ્ચર્યાથી પણ જગતનાં અનિષ્ટોનું નિવારણ થતું નહોતું. એમણે જગતનાં દુઃખોનું મૂળ તૃષ્ણામાં જોયું, જેનું નિવારણ નિસ્તૃષ્ણ જીવનથી થઈ શકે. તૃષ્ણાના નિરોધની સાથે સાથે ભગવાન યુદ્ધે આત્મવાદનું નિરસન કરવું પણ આવશ્યક ગણ્યું. જ્યારે જ્યારે આત્માની ચર્યા ઉપસ્થિત થાય ત્યારે એમણે એનું વિશ્લેષણ કરીને એના પાંચ સ્કન્ધ (વિભાગ) રૂપ શરીર, વેદના, સંસાર, સંસ્કાર અને વિજ્ઞાનની અનિયતા સિદ્ધ કરી આપી. પ્રસિદ્ધ સંયુતનિકાયમાં પ્રધાન-તથા આ પાંચ સ્કન્ધોની જ જુદી જુદી ઢબે ચર્યા કરી છે. સ્કન્ધોની ચર્યા પછી સંયુતનિકાયમાં ચક્ષુ, શ્રોત્ર, ક્ષાણ, જિહ્વા, કાય, એ બાહ્ય અને રૂપ, શબ્દ, ગંધ, રસ, સ્પર્શ અને ધર્મ એ આંતર્યન્તર આયતનોની ચર્યા કરી છે. એમાં કયાંક કયાંક જ વિજ્ઞાનનો પણ સમાવેશ કરવામાં આવ્યો છે. આમ બાર આયતનો અને જ વિજ્ઞાનો મળીને આત્માના જે અઘાર વિભાગ થાય તેમને અભિધર્મમાં 'ધાતુ'ના નામથી ઓળખાવવામાં આવ્યા છે. આ સ્કન્ધ આયતન તથા ધાતુરૂપે કરેલું આત્માનું વિશ્લેષણ (વિભાજન) (ભગવાન) યુદ્ધને અતિ અભિમત હતું, અને એમાંથીજ 'અભિધર્મ'ની ઉત્પત્તિ થઈ. આ પૃથક્કરણનો વિકાસ 'અભિધર્મ'ના આરંભના પ્રકરણ ધર્મસંસ્કરણમાં થયેલો છે. 'અભિધર્મ'નાં કથાવસ્તુ અને પુણ્યલ-પજ્ઞાતિ એ સિવાયનાં બાકીનાં પ્રકરણો ઉપર ધર્મસંસ્કરણની પૂરેપૂરી અસર થઈ છે. આમ અભિધર્મની રચના ધર્મસંસ્કરણ ઉપરથી જ મોટે ભાગે થઈ છે. આરંભમાં અભિધર્મનો અર્થ ખાસ ધર્મ નહીં, પણ ધર્મને અનુકૂલ હોય એવાં કથાવસ્તુ જેવાં નાનાંમોટાં પ્રકરણો એવા થતા હતા. પરંતુ ધર્મસંસ્કરણની રચનાથી અભિધર્મના અર્થમાં મોટી ક્રાન્તિ થઈ, અને એ અતિરેક ધર્મ ન રહેતાં વિશેષ ધર્મ બન્યો. ધર્મસંસ્કરણ એ આ રીતે અભિધર્મનું અત્યંત મહત્ત્વનું પ્રકરણ છે. એ ખરું જોતાં બૌદ્ધ ધર્મથી સુપરિચિત ભિક્ષુઓ માટે રચાયું છે, અને સિલોનમાં એની અત્યંત પ્રતિષ્ઠા હતી. દસમી સદીમાં એક લંકાધીપે એની સુવર્ણપત્ર ઉપર નકલ કરાવી હતી. ધર્મસંસ્કરણ કેટલેક અંશે આપણને સાંખ્યપદ્ધતિનું સ્મરણ કરાવે છે. ધર્મસંસ્કરણ, એની અસર નીચે રચાયેલાં વિભાજન (વિભાગીકરણ), ધાતુકથા (મનોવૃત્તિઓની ચર્યા), યમક (દ્વિવિધ પ્રશ્નોત્તર) અને પદ્ધાન (કાર્યકારણ મીમાંસા) એ પ્રકરણો અને પૂર્વકાલીન પુણ્યલપજ્ઞાતિ (માનવ વ્યક્તિઓના વર્ણનો) અને અશોકના શુરુ મોગલીપુત્ર તિરસે રચેલું કથાવસ્તુ એ બે પ્રકરણો મળીને અભિધર્મપિટક બને છે. કથાવસ્તુ બૌદ્ધ ધર્મના ઇતિહાસની દૃષ્ટિએ મહત્ત્વનું છે. એમાં ભિન્નભિન્ન દૃષ્ટિ મતોનો પૂર્વપક્ષ કરીને પછી તેમનું નિરસન કર્યું છે. આ પ્રકરણ ઉપર પાંચમી સદીમાં યુદ્ધઘોષે ટીકા રચી છે.

અધ્યાપક કાસંખીજીએ ધર્મસંસ્કરણની સવિસ્તર આલોચના કરીને પછી અન્ય પ્રકરણોની ક્રમશઃ ચર્યા કરી છે. અભિધર્મગ્રંથમાં એટલી પ્રૌઢ અને કૂટ વિશ્લેષણપ્રધાન ચર્યા છે કે આટલી

મર્યાદામાં એની સમીક્ષા સામાન્ય વાંચકાને સુગ્રાહ્ય નથી. આટલી પારિભાષિક અને સારગર્ભ ચર્ચા તદ્વિદાને જ ઉપયોગી થાય તેવી છે. એશક એમને માટે તો આ ગ્રંથ મોંઘા મૂલનો છે.

કેટલેક અંશે આ ગ્રંથની કઠિનતાનું કારણ ગૂજરાતીમાં બૌદ્ધ સાહિત્યની અલ્પતા એ છે. ક્રાસંખીજીએ જ બૌદ્ધ ધર્મના ‘બુદ્ધલીલા’, ‘ધર્મપદ’, ‘સુત્તનિપાત’ આદિ ગ્રંથો આપ્યા છે. અન્યથા આ દિશામાં ગૂજરાતી સાહિત્ય બહુધા નિર્ધન છે. એટલે આવા પારિભાષિક દર્શનગ્રંથોની ભૂમિકારૂપ અને તેવા, સાધારણ ક્રાંટિના વાંચકા રસપૂર્વક વાંચી શકે એવા, બૌદ્ધ તત્ત્વચિંતનના સરલ સુવાચ્ય સામાન્ય ગ્રંથની ગૂજરાતીમાં અત્યંત આવશ્યકતા છે.

એવો ગ્રંથ અધ્યાત્મ ક્રાસંખીજી જેવા સમર્થ વિદ્વાનની પાસે જ ગુજરાત વર્નાક્યુલર સોસાયટી તૈયાર કરાવી આપી ગૂજરાતી સાહિત્યની આ દિશામાં અપૂર્ણતા દૂર કરે એવી અપેક્ષા ન રખાય ?

કાન્તિલાલ બ. વ્યાસ

સંસ્કૃત ‘દ્વયાશ્રય’ કાવ્યમાં મધ્યકાલીન ગુજરાતની સામાજિક સ્થિતિ—રામલાલ યુનીલાલ મોદી, પ્રકાશક ગુજરાત વર્નાક્યુલર સોસાયટી, અમદાવાદ, ૧૯૪૨, પૃ. ૯૪, કીમત સવા રૂપિયો.

કલિકાલસર્વજ્ઞ આચાર્ય હેમચન્દ્ર પ્રણીત ‘દ્વયાશ્રય’ એક અનોખા સ્વરૂપનું મહાકાવ્ય છે. એમાં એક તરફથી ભટ્ટિકાવ્યની માફક હેમચન્દ્રાચાર્યે સ્વરચિત ‘સિદ્ધહેમચન્દ્ર’ મહાવ્યાકરણનાં સૂત્રો ઉકૃત કર્યાં છે, અને બીજી બાજુથી કાવ્યરૂપમાં ગૂજરાતના ચૌલુક્ય વંશનો ઇતિહાસ આલેખ્યો છે. આવી વિરલ મૂલ્યવત્તાવાળા ઐતિહાસિક કાવ્યમાંથી સામાજિક નિર્દેશો વ્યવસ્થિત રીતે ગોઠવીને પ્રસિદ્ધ ઇતિહાસવિદ્દ શ્રી. રામલાલ યુનીલાલ મોદીએ પ્રસ્તુત પુસ્તિકામાં એ વખતની સામાજિક સ્થિતિનો અભ્યાસ કર્યો છે. કાંઈ કાંઈ સ્થળે પાદટીપોમાં અને પરિશિષ્ટોમાં અન્ય કાવ્યપ્રબંધો અને ઉક્તીર્ણ લેખોમાંથી વિશેષ હકીકત આપી છે. પણ પ્રધાનતયા તો ‘દ્વયાશ્રય’માં જ ગ્રંથિકા મર્યાદિત થઈ રહે છે. એમાં હકીકતો અને તેટલા સંક્ષેપમાં આપવામાં આવી છે, અને શૈલી પણ વિષયાનુવર્તી રખાઈ છે. કેટલીક વીગતોમાં વિસ્તારની આવશ્યકતા હોવાથી એ વિષેનાં અન્ય પ્રબંધાદિક સાધનો સાથે મેળવીને પરિશિષ્ટોમાં ચર્ચા કરી છે.

‘દ્વયાશ્રય’માં પ્રાપ્ત થતી સામાજિક માહિતીને સંકલિત કરીને વિષયવાર ગોઠવીને પૃથક્પૃથક્ પ્રકરણોમાં ચર્ચા છે. આમ ક્રમશઃ એ સમયનાં (અર્થાત્ ઇસવીસનના આરમા શતકનાં) નગર અને નગર-જનો, અન્ન અને વસ્ત્રાભૂષણ, સાંસારિક રીતરિવાજો, ઉત્સવો અને વિલાસો, ચમત્કારો અને વહેમો, વિદ્યા કલા અને ધર્મ, ખેતી, ઉદ્યોગ અને વેપાર, સૈન્ય અને શસ્ત્રાસ્ત્ર, રાજકુલ અને ઐતિહાસિક તત્ત્વો, અને ભૌગોલિક તત્ત્વોનું શ્રી. મોદીએ વિવેચન કર્યું છે. પરિશિષ્ટ ક માં ‘દ્વયાશ્રય’માં આવેલાં વિશેષનામોની સૂચિ આપી છે, પરિશિષ્ટ જ માં શ્રી. હેમચન્દ્રાચાર્ય અને ‘દ્વયાશ્રય’ કાવ્ય સંબંધે વિશેષ વિસ્તારથી માહિતી આપી છે, પરિશિષ્ટ ગ માં અન્યગ્રંથોના ઉલ્લેખોને સર્વે ઓફ ઇન્ડિયાના નકશાઓ સાથે મેળવીને જમ્મુમાલી નદીનું ભૌગોલિક સ્થાન નિશ્ચિત કર્યું છે. પરિશિષ્ટ ઘ માં ઉક્તીર્ણ લેખોના આધારે સોલંકી-યુગના રાજ્યાધિકારીઓનું વર્ણન આપ્યું છે. પરિશિષ્ટ ઘ માં સુવર્ણસિદ્ધિ અને સંવત્સરપ્રવર્તન વિષે ચર્ચા કરી છે, અને પરિશિષ્ટ છ માં કુમારપાલના જૈનધર્મસ્વીકારના પ્રશ્ન સંબંધે ઊહાપોહ કર્યો છે. પુસ્તિકાને અંતે સવિસ્તર શબ્દસૂચિ આપી છે. એકંદરે પુસ્તિકા ઘણી સુવાચ્ય અને રસપ્રદ બની છે.

ગ્રંથિકાની વિષયમર્યાદા સંકુચિત છે. કેવળ ‘દ્વયાશ્રય’માં મળતી સામાજિક માહિતીને બદલે સમગ્ર સોલંકીયુગનું સામાજિકચિત્ર એ સમયના કાવ્ય-પ્રબંધ-ઉક્તીર્ણલેખાદિક તમામ સાધનોને આધારે આલેખાવું હોત તો કેટલું એવી અપેક્ષા સહજ જ મનમાં રહે છે. પણ પોતાની વિષયમર્યાદામાં રહીને શ્રી. રામલાલભાઈએ શાસ્ત્રીયતાથી, વિવેકપૂર્વક અને રસપ્રદ રીતે એ વખતની સામાજિક સ્થિતિનું દર્શન કરાવ્યું છે. શ્રી. રામલાલભાઈની પ્રસ્તુત ગ્રંથિકા અને શ્રી. ભોગીલાલ સાંડેસરાના ‘વાઘેલા સમયનું

ગૂજરાત' જેવા યુગવાર ગૂજરાતનું સામાજિક ચિત્ર આલેખતા સ્વાધ્યાયો ભવિષ્યના પ્રમાણુભૂત સામાજિક ઇતિહાસની પૂર્વભૂમિકા તૈયાર કરી આપે છે.

પ્રસ્તુત ગ્રંથમાં રામલાલભાઈએ ઘણી રસપ્રદ માહિતી અતિ સુવાચ્ય રીતે આપી છે. વર્ણો વિષે અન્નવસ્ત્રાદિ સંબંધે, ઉત્સવો સંબંધે, તોલમાપ સંબંધે ઘણી રસિક હકીકતો એમણે આપી છે. અભ્યાસી મૂળ ગ્રંથ સરખાવી શકે એ માટે દરેક હકીકતની પછી કૌંસમાં કાવ્યનો સર્ગ અને શ્લોકનો અંક ટાંક્યો છે. અત્યારસુધીમાં આવા મહત્વના અને કઠિન ઐતિહાસિક કાવ્યનો એક જ અને તે પણ ત્રુટિત હસ્તલિખિત પ્રત ઉપરથી સદ્. સાક્ષર મ. ન. દ્વિવેદીએ કરેલો ગૂજરાતી અનુવાદ પ્રાપ્ત હતો તે અપૂર્ણતા આ સ્વાધ્યાય ગ્રંથિકાથી દૂર થાય છે એ માટે ગૂજરાતના ઇતિહાસના અભ્યાસીઓ રામલાલભાઈના ઋણી રહેશે.

એશક કોર્મ કોઈ સ્થળે એમનાં વિધાનો ચિન્ત્ય છે. દેવીઓમાં એકસો આઠ મંદિરોના ઉલ્લેખ ઉપરથી એ કાળે ગૂજરાતમાં શક્તિપૂજા ખૂબ ફેલાયેલી હતી એવું અનુમાન (પૃ. ૨૭), એક શ્લોકના નિર્દેશ ઉપરથી યમની પૂજાના પ્રચારની કલ્પના (પૃ. ૨૭), કુમારપાલની જૈનદીક્ષા સંબંધેનો ઊહાપોહ (પૃ. ૨૮ અને પરિશિષ્ટ છ) -આવાં કેટલાંક વિધાનો સાથે બધા સંમત થશે નહીં. એવીજ રીતે 'દયાશ્રય'નાં ભૌગોલિક નામો ઉપરથી કરેલા સ્થળનિર્ણયો પણ અભ્યાસપૂર્ણ અને શાસ્ત્રીય હોવા છતાં અંતિમ કદાચ ન ગણાય.

પણ આટલો પ્રામાણિક મતભેદ તો ગૂજરાતના સંશોધનની આજની સ્થિતિઓ રહેવાનો જ, અને એ વડેજ ઘણા કૂટ પ્રશ્નો વારંવાર પુષ્કળ છણાઈને અંતિમ નિર્ણય પામવાના. એથી આ સ્વાધ્યાયનું મૂલ્ય જરાયે ઘટતું નથી. ઊલટું શ્રી. રામલાલભાઈની આરુઢ ઇતિહાસવિદ્ તરીકેની કાર્તિને આ ગ્રંથિકા બક્ષાવે છે.

આવા સુંદર સ્વાધ્યાયો સુલભ કરી આપવા માટે ગૂજરાતનો વિદ્વદ્વર્ગ ગુજરાત વર્નાક્યુલર સોસાયટીનો ઋણી રહેશે.

કાન્તિલાલ બ. વ્યાસ.

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Journal of the Indian Merchants' Chamber, Vol. XXXVIII, Nos. 5, 6 and 7.

હંસાડલી : અસાઈ ન નાયકની રચેલી; સંપાદક, પં. કે. કા. શાસ્ત્રી; પ્રકાશક, ગુ. વ. સો. અમદાવાદ.

માનસી : સપ્ટેમ્બર ૧૯૪૪, વર્ષ ૯, ગ્રંથાંક ૩. આ અંકના ૧૦૫ પૃથ્માંથી ૮૭ પૃથ તેો શ્રી. દુર્ગાશંકર કેવળરામ શાસ્ત્રીનો એકજ લેખ રોકે છે. “એક સરસ્વતી ભક્તનાં અક્ષર જીવનનાં સંસ્મરણો” એ દુર્ગાશંકરભાઈનાં સાત્ત્વિક અને નિઃસ્વાર્થી જીવનની, તીવ્ર શુદ્ધિ અને નિષ્કાલસ વૃત્તિની પ્રસાદી છે. ગુજરાત આ નત્ર અને સાચા હૃદયના સંશોધક વિદ્વાનની કદર કરી શકી નથી—તેમની પશ્ચિપૂર્તિનો ઉત્સવ પણ ઉજવી શકી નથી, એજ એમની નિઃસ્વાર્થી અને તટસ્થશુદ્ધિની શ્રદ્ધ સાક્ષી પૂરે છે. ‘માનસી’ ના ડીસેમ્બર ૧૯૪૪ ના અંકમાં ડૉ. હસમુખ સાંકળિયાનો “ગુજરાતમાં પ્રાગૈતિહાસિક માનવ” વિષેનો લેખ ખાસ ધ્યાન ખેંચે છે. તેમની લાક્ષણિક શૈલીમાં આ નવા સંશોધન વિષે ઘણી ઉપયોગી માહિતી ટુંકાણમાં આપી છે. **અભિધર્મ :** વ્યાખ્યાતા, અધ્યાપક ધર્માનંદ ટ્રાસંખી; પ્રકાશક. ગુજરાત વર્નાક્યુલર સોસાયટી, અમદાવાદ. **મધ્યકાલીન ગુજરાતની સામાજિક સ્થિતિ** (સંસ્કૃત દ્વાઅથ કાવ્યમાં), રામલાલ સુનીલાલ મોદી; પ્રકાશક, ગુજરાત વર્નાક્યુલર સોસાયટી, અમદાવાદ. **વડોદરાની સામાજિક સેવાઓ :** રમેશનાથ રં. ગૌતમ, મૂલ્ય રૂ. ૧૧૧) પૃથ સંખ્યા ૧૪૪. **શ્રી. સયાજી ગ્રામવિકાસમાળા :** પુસ્ત ૧ હું, ૨ જું, ૩ જું અને ૪ થું. આપણું વડોદરા : પ્રકાશન ખાતું, વડોદરા, ૧૯૪૩. વડોદરા રાજ્યમાં લોકહિતના કાયદા; શિક્ષણપ્રવૃત્તિ; સંગીતશિક્ષણ; જમીનનું સંરક્ષણ; ખેતીની જમીનનું ધોવાણ, તેનાં કારણો, તેની અસર અને તેને અટકાવવાના ઉપાયો; અર્થજ્ઞેની ઉત્તિ અર્થે લેવાયેલાં પગલાં; આલચમૂ પ્રવૃત્તિ વગેરે અનેકવિધ પ્રવૃત્તિઓની ઉપયોગી માહિતી આપતી નાની પત્રિકાઓ. **શુદ્ધિપ્રકાશ :** પુસ્તક ૯૨, અંક ૨, ૧૯૪૫. **નૂતન શિક્ષણ :** પુસ્તક ૧૦, અંક ૯, ૧૦ અને ૧૧. **પુસ્તકાલય :** પુસ્તક ૨૦, અંક ૫, ૬ અને ૭. **કુમાર :** વર્ષ ૨૨, અંક, ૫, ૬ અને ૭. **પ્રકૃતિ :** માર્ચ ૧૯૪૫. **ઉર્મિ અને નવરચના :** અંક ૩ અને ૪, ૧૯૪૫. **ઘરશાળા :** નિયમિત. **બ્રજળંબુ :** નિયમિત. **કુલછાપ :** નિયમિત. **સયાજીવિજય :** નિયમિત.

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NOTES

The Editorial Board regrets the delay that has taken place in the publication of the Journal especially as this has meant delaying the publication of the Annual Report and the Balance Sheet of the Society for the year 1944. An apology is also due to members some of whose contributions have had to be delayed on account of the limitations of space caused by the paper control orders. Things are, however, expected to improve in the near future and we hope members and others interested will continue to send us the results of their research work to enable us to maintain and even raise the standard of the Journal.

* * * *

It is proposed to award the Society's medal for 1944 to Dr. T. N. Dave for his researches on the 'Linguistic Surveys of the Borderlands of Gujarat' at a special meeting of the Society to be held in December 1945.*

* * * *

The Survey of the Birds of Gujarat referred to in the July 1944 issue of this Journal has been commenced by Mr. Salim Ali under the joint auspices of the Bombay Natural History Society and the Gujarat Research Society. He has commenced work in Baroda territories and will extend it to other districts in Gujarat before proceeding to Kathiawar in the ensuing cold weather. We are thankful to the Trustees of the Sir Dorabji Tata Trust for their donation of Rs. 1,000/- towards the expenses of this Gujarat Ornithological Survey. We may mention here that Mr. Salim Ali's book on Bird Survey of Cutch has already been published by the Bombay Natural History Society.

* * * *

We are glad to announce that the work of the Gujarat Pre-historic Expedition which has been working since 1941 and the first description of which was given in the January issue of this Journal by Dr. H. D. Sankalia is to be continued by him. In response to an appeal for funds for this work issued by the Deccan College Post-Graduate Research Institute, the Sir Dorabji Tata Trust have donated a large sum which will meet the entire cost of the next expedition. This expedition which will be named after the generous donors expects to work on 3 or 4 sets in Gujarat for about

* Since this was written, the Medal has been awarded to Dr. T. N. Dave at a special meeting of the Society held on Friday, 14th December 1945 in the lecture hall of the Bombay Branch of the Royal Asiatic Society under the presidency of the Hon'ble Justice Sir H. V. Divatia.

4 months in the year 1946-47. This Society has also agreed to contribute according to its means and hopes that the scheme will obtain further support as and when necessary.

* * * *

Prof. M. B. Pithawala's contribution on the Historico-Geographical Survey of the Gujarat Region and the Parsees which appeared in the April and July 1945 issue of the Journal is, the author tells us, indicative of further regional surveys of Gujarat, which he is preparing to undertake.

* * * *

We expect during the ensuing cold weather a party of research workers under Dr. D. N. Majumdar of Lucknow University to visit Gujarat and make an anthropometric study of important tribes other than the Bhils. We are glad to record here that the Society has been able to secure in this project the co-operation of the Statistical Institute, Calcutta, Dr. Mahalanobis having agreed to analyse for us the results of this investigation free of charge.

* * * *

In the April 1945 issue of 'Man In India' there appears an appeal for a complete anthropological survey of India under the auspices of the Government of India. Although different provinces have prepared several ethnographical surveys, the one for Bombay having been published in 1920-22, a centralised survey under a Central Anthropological Survey Department, not dissimilar to the geological survey or the zoological survey or the archæological survey would give a great impetus to the study of anthropology. Our universities do not seem to have been able to give this study adequate attention probably because of the fear that the students thus trained might not find suitable employment, especially if the study of anthropology was isolated either from Sociology or Economics. A Central Anthropological Survey would have the advantages of encouraging a large number of students to take to this study seriously and would secure uniformity in the method of approach to this subject without interfering with the efforts of the various provincial governments or of private research bodies.

* * * *

We have pleasure in recording another donation to us by Sir Purshotamdas Thakurdas who, as members know, has been very generous to us throughout. He has now promised us an annual donation of Rs. 1,500/- for five years to be utilised for work on the nutritional and health condition of the Gujarati population. It will be possible thus for us to extend the work already done in regard to middle class families in Bombay City under the patronage of Sir Purshotamdas.

A NEW DOCUMENT OF GUJARATI PAINTING—A GUJARATI VERSION OF GITA-GOVINDA

By

NĀNĀLĀL CHAMANLĀL MEHTĀ

Some years ago almost at the threshold of my studies in Indian Art, I ventured to designate what were till then known as Jaina paintings as specimens of a distinctive Gujarati school.* Most of the material which was then available related to Jainism. The illustrated manuscript of *Vasanta Vilas* (1451 A.D.) was the first important document of non-Jaina paintings belonging to the western school. The name that I had given to these paintings has been more than justified as a result of the new material which has been discovered and studied during the last few years.

I have always felt that in a country like India it is a mistake to divide art with reference to creeds, for it is well-known that the executants worked for patrons of every religion and that the distinction was really more geographical than theological. Apart from the fact that the local schools generally have their peculiar characteristics, the geographical classification has the further advantage of emphasizing the regional

* I would have preferred the term 'Rajasthani' to 'Gujarati' painting but for the fact that the use of the former has been associated for a long time with the paintings mostly of the 17th and the 18th centuries belonging primarily to Jaipur which have been executed in a style totally different from what I have called 'Gujarati painting' from the 11th to the 16th centuries. It should, however, never be forgotten that old Gujarat was integrally a part of Rajasthan and if I have used the phrase 'Gujarati painting', it is because the bulk of the paintings of this schools were produced in the region that is now called Gujarat and apparently the word 'Gujarati' was considered a mark of distinction and used by singers, painters, and other artisans, at any rate, during the regime of Akbar. It is also curious to note that in a sixth century Tamil poem *Manimekhalai* there is a reference to the sculptors from Vardhamana Puri or modern Wadhwan (Kathiawad). So even Kathiawad, which now apparently has but scanty remains of anything which may be called significantly artistic, had once upon a time a vogue and a reputation. On the whole, however, it may be said that Kathiawad does not appear to have played a part of much importance in the artistic development of Gujarat and this would be borne out by the fact that Kathiawad, despite its inclusion of 'Saurashtra', is an incredibly barren and unproductive region of India—even more arid than the major portion of Marwar and is only important because of the enterprise of its people and the shrewdness of its chieftains. Agriculturally and, therefore, economically Kathiawad could not support any great centres of wealth or learning in the past and there are no traditions of any such centres that one can find.

The nomenclature of Gujarati painting derives added significance from achievements of the Gujarati school of architecture which flourished for about 250 years beginning from the early 15th century. "With the reign of Mahmud I Begarha (1459-1511) came Gujarat's greatest days, and at the same time the building art of that country also attained its final and most sumptuous form." (Page 53 : Percy Brown's *Indian Architecture—Islamic Period—1942*.)

The fame of the Gujarati craftsmen appears to have been on a par with that of the painters, for one of the finest structures in Akbar's Fatehpur-Sikri—Jodhbai's Palace "was entrusted in part to artisans from Gujarat, one of the groups of workmen brought from distant parts to speed up the production of this vast project" (Pp. 98-99, *Ibid.* Also see pp. 56-57). They merely continued the great traditions of Solanki if not earlier buildings.

rather than religious characteristics of works of art. The Gujarati school has got certain characteristic features not only in the matter of painting but also of architecture, sculpture and dance. As a matter of fact, the school is really distinctive of its people; but it must be remembered that what is Gujarat at present is only an administrative arrangement and has nothing to do either with its real and cultural extension in space or time. Some years ago, I found that a tribe called the Gujars led a nomadic existence on the steppes of Kashmir and grazed cattle at a level of 12,000 to 14,000 feet above the sea level. The language of these people is said to be akin to Gujarati and it is perhaps probable that these people may have given their name to the district of Gujarat in the Punjab. A registered 'criminal' tribe in the district of Muzaffarnagar (United Provinces) called the Bawarias, uses also a *patois* strangely akin to Gujarati and, curiously enough, is addicted to non-violence in pursuit of its criminal activities. This peculiar tribe believes in non-violent crime—crime which is carried out by an elaborate system of personation and fraud! Whether the old Gujaratis now inhabiting the north and the north-western part of the Bombay Presidency came from these northern and nomadic ancestors, can be only a matter of conjecture. There can, however, be no doubt that they have had the closest affinities with Rajasthan and that the boundaries of Gujarat and the Gujarati culture must be taken to embrace a major part of Rajputana. Historically also the Shrimals and the Porwad Vanias or the Vaishyas who play such a leading role in the commercial life of Gujarat migrated from the well-known historical places of Shrimal and Pragvata. Their close affinity with the fighting clans of the Rajputs is further corroborated by the shining exploits of the rulers and their ministers who have left such enduring monuments of their valour, generosity and good taste. It is also important to note that the two principal creeds of modern Gujarat find some of their most sacred places of pilgrimage in the very heart of Rajputana—Shri Nathdwara for the Vaishnavas and Shri Kesariyaji for the Jains. The linguistic affinities as well as those of enterprise, frugality, high-minded charity and piety between the peoples of Rajputana and Gujarat are well known.

The Gujarati school of painting should, therefore, be understood as embracing not only what is known as Gujarat at present but also the major portion of Rajasthan, at any rate up to the end of the seventeenth century when the provincial Courts of Rajputana came to be greatly influenced by the current idiom of the Moghul atelier.

Hitherto the pictorial material representative of the Gujarati school of painting has been, barring the richly illuminated Kalpasutras and Kalkacharya Kathanakam, limited. Vasanta Vilas had 79 pictures on cloth, the largest being 5·7" by 7·6". A number of Vaisnava and other manuscripts have been recently studied especially by Dr. M. R. Majmudar including the Gitagovinda, Balagopala Stuti, Devi Mahatmya, Rati Rahasya, and some later pictures of Shrimad Bhagavata dated 1610 A.D. The Gitagovinda studied by him refers to six out of the ten avatars of Kṛṣṇa with an introductory one for Sarada. Other early manuscripts of the Gitagovinda have been published by Stella Krammrisch in December 1934 number of the Journal of the Indian Society of Oriental Art. The manuscript that I propose to discuss is perhaps one of the earliest and the most elaborately illustrated version of Gitagovinda, and of probably the early sixteenth century. The manuscript is in a fair state of

preservation and has 159 folios with four pages missing. The size of the folio is $12\frac{3}{4}'' \times 7''$.

As pointed out by Majmudar, the popularity of Jayadeva's Gitagovinda in Western India within less than 200 years of Jayadeva's demise is remarkable. Apparently the Gitagovinda heralded the growing tide of Vaishnavism which was to dominate the popular and religious life of the people throughout Hindustan almost right up to the end of the 17th century. The Gitagovinda apparently became a favourite composition not only with the connoisseurs of Sanskrit and the Vaishnava devotees but also with the illuminators and illustrators right upto the end of the 18th, and even in the beginning of the 19th century. I have seen stray pages of Gitagovinda done in the Moghul style in the collection of Sir Cowasji Jehangir at Bombay belonging obviously to the time of Akbar. There is a magnificent version of Gitagovinda with the Tehri Darbar, examples of which were reproduced in my book *Studies in Indian Painting*. Another very remarkable version is the one painted by Manaku in the Basholi style and exhibited in the Lahore Museum. This particular version has raised several intriguing questions. The authorship of the paintings is claimed by Manaku, a woman painter, who claims to have produced the illustrated edition in the year 1787 Samvat or 1730 A.D. The verse is illuminated in gold and forms an integral part of the opening picture of the Gitagovinda. It is a pity that the beautiful pictures of Manaku have not yet been adequately reproduced or won a widespread popularity, as they deserve.

I have seen other versions of the Gitagovinda in the later and highly ornate Rajasthani style, but none of these pictures rival those in the collections of the Tehri Darbar and the Lahore Museum. A brilliant series of Gita-Govinda pictures executed by a local school of artists working at Kishengarh—near Jaipur—has recently been discovered by Principal Dickinson of Lahore. Some of these pictures are dated as late as 1840, and are ascribed to individual artists. These pictures doubtless belong to the parent stock of the Rajasthani painters working in Jaipur. What is noteworthy, however, is the maintenance of a high aesthetic standard even till about the middle of the 19th century.

The manuscript that I have recently acquired is probably the most profusely illustrated document of Gujarat painting and is interesting in a variety of ways. The illustrations enclosed in a rectangle of red lines cover the entire page with the relevant Sanskrit text inscribed at the top. Only one side of the folio is used and the paper while it has stood the test of time, is not of the same superlative quality as one often comes across in respect of Moghul paintings. The writing, as will be seen from some of the reproductions given here, is good and perhaps above the average of most Sanskrit manuscripts of the period. But here again it cannot compare with either the quality or the care devoted to the writing of Persian manuscripts of the Moghul Court.

In style and in the quality of the pictures, the manuscript is remarkable. The drawing is swift, precise and vital, and the artist moves from one incident to another with a sense of confidence and sure improvisation. The figures are more alive than in any of the known examples of Gujarati painting. The colouring is brilliant, warm and striking, though the palette is limited chiefly to the use of reds, blues, whites and greens. There is no attempt at subtle combinations or producing an impression of impeccable

or ingenious craftsmanship. The pictures have an atmosphere of intimacy and the studied simplicity both of line and colour would appear to be understood equally well by the artist and his audience. Almost every picture would have made a magnificent mural. It was as if the art of the fresco had been abridged into the folios of a manuscript.

The illustrated folios are distributed as follows :—

<i>Cantos.</i>	<i>Folios.</i>
I.	1-40
II.	41-51
III.	52-58
IV.	59-70
V.	71-84
VI.	85-89
VII.	90-110
VIII.	111-115
IX.	116-119
X.	120-128
XI.	129-141
XII.	142-163

The scene is laid on the banks of the Jumna, but it is not the Jumna of the Pahari painter—rushing down from its mountainous retreats and whirling in swift turns through scenes of verdant glory. The Jumna as seen by the Gujarati painter is but a placid stream winding through the Braj Mandal and all that he could conjure up in his vision,—a stream replete with fish and branching trees on its banks. There are none of the magnificent trees, the brilliant creepers or the flowering plants which the Pahari painter associated with its precipitous descent across the Himalayas.

As usual in pictures of this particular school, the size of the painted object is primarily the function of its importance and not of relative or spatial proportions. For example, a bee or a bird may be painted unusually large because the artist intends to emphasize its prominence. In other words, the whole object of illustrated manuscripts like the *Gitagovinda* was to give a racy, colourful and easily understandable version of the popular poem. Just as, for instance, the heroes of the 'Cochin Murals', a sumptuous publication by the Cochin Government (1940) illustrating the *Ramayana* and of others in the Padmanabhapuram Palace in the Travancore State illustrating the incidents from the *dashavatara*—the ten incarnations—and the *Mahabharata* are dressed up in the costumes of the Kathakali dancers, the characters in these early manuscripts of the Gujarati school would look as if they were a part of the popular pictorial show—the *bhavai* or the *swang* which the people witnessed on appropriate festivals.

The *dramatis personae* are generally outlined in red, while the entire landscape of trees and creepers along with humming bees and chattering birds are depicted with the brush—a rather uncommon and unusual departure in Indian manuscript or miniature paintings. Colour is literally thrown in and quite frequently overflows the limits of the encompassing lines.

It is unnecessary to repeat the characteristic features of the Gujarati school. It will suffice to draw attention to some special features of this particular Ms. The main interest centres on the treatment of the figures. There is no attempt at making the figures "speak". The emphasis is almost wholly on gestures and movements. Facial expression is generally the same, but it is remarkable how the artist has been able to make his figures live by concentrating on simple gestures and significant poses. Kamadeva—Cupid, figures quite prominently and is generally shown standing on one foot and shooting the flower-edged dart of Love. Dancing postures seem to be favoured.

Jayadeva, the author of the Gitagovinda, with his stringed *ekatara* or *vina* is depicted in a number of panels attired in dhoti, *dupatta* and a cap. It is not a portrait but merely the conventional depiction of the author in a mood of humility and in accord with the ancient tradition. The landscape of conventional trees with broad leaves and spreading branches, humming bees and clamorous birds, furnishes the background for the romantic *sortie* of Radha and Krishna, when the sky was overcast; the night was dark and young Krishna was afraid of walking to his home across the Jumna. The bee and the cuckoo (*Kokila*) are naturally prominent as the heralds of spring. The emphasis, however, is on the movements of the principal actors in the poem.

Perhaps the striking thing about these various pictures is the information that is available regarding the costumes of the people in the epoch just preceding the advent of the Mughals. The diaphanous *jama* or the *angarkha* with deep angular slits at the ends as also the transparent scarf or the *chunri* of the ladies is perhaps the most striking. This particular type of *angarkha* is found in some of the earlier pictures of the court of Akbar, particularly in respect of the portraits of Hindu personages. It would appear, however, that this type of *angarkha* was the prevailing dress of the Hindu gentry, at any rate in Rajputana and that it was adopted with modifications at the new Imperial Court of Agra and Delhi. The ordinary *desi* shoe is also to be seen as well as the *topi*, apart from the *kamarband* or the waist-band so characteristic in the delineation of the grandees of the Mughal Court at a later period and still in use in Rajputana. The peaked cap—the prevalent headgear in the pictures of Vasanta Vilas was probably something of the nature of *topi* or a *mukuta*. The word '*topika*' was used in a work of the 12th century called Abhilashitartha Chintamani and was particularly commended for monsoon wear. Kamadeva is generally attired in *dhoti* and cap. The masculine beard as well as long coiffure seem to have got out of fashion since the days of Vasanta Vilas. Women folk, on the other hand, cover their heads with the ends of the *chunri*, tie their hair in a free dangling knot and carry the curious black wrist band probably as a safeguard against the 'evil eye' which is not generally found after the end of the 16th century, but is quite characteristic of the paintings of the court of Akbar. The fashion of putting the auspicious mark on the forehead seems to be just coming into fashion. Judging in fact from the costumes worn by the women, one would be inclined to think that the manuscript was really painted at one of the Vaishnava centres in Rajputana such as Nathdwara, for the dress of the women is almost like that of the Marwari lady of the present day. The big round ear-rings are also there and appear to have been the weakness of the Gujaratis as alleged by a writer of the 10th century A.D.

Both men and women seem to prefer coloured cloths with check and floral designs and the men are not averse to combining diaphanous *angarkha* with coloured or even striped or patterned pyjamas. The *dupatta* or long scarf thrown round the neck gives a certain amount of scope to the artist to impart movement to his masculine figures, as also the angular ends of the *angarkha* and of the headgear, the *safa* or the turban.

The dating of the Gitagovinda Ms. is not wholly free from difficulties. The epigraphical evidence of the top *mátrás* is not conclusive for ascribing the manuscript to a later period. The style of the painting is primitive, brilliant and virile and would, *prima facie*, indicate an earlier origin than the 15th or the 16th centuries and this would not be rebutted merely by the presence of the angular and diaphanous *angarkha*, the waist band and the flowing *dupatta* or the coloured trousers, for it is well known that the pyjamas or breeches at any rate, are as old as the 1st century A.D. The famous statue of Kanishka for instance of the 1st century A.D. shows the great ruler clad in what would be now called breeches and top boots and a long coat. The predominance of the *angarkha* and the trousers may be explained by the fact that Jayadeva's poem was acted and painted as a *yátrá* or a *bhavai* in which the male characters, at any rate, were dressed like those of the princely order. I would imagine that even in the bygone days there was differentiation in the costumes of the common folk as distinguished from those of the higher classes, just as at present. The latter probably wore the *angarkha* and the pyjamas while the rest patronised the *dhoti*. In some ways the pictures of the Vasanta-Vilas as well as of the contemporary Jaina manuscripts look to me to be more sophisticated, the drawing and colouring more accomplished and deliberate than the pictures of the present manuscript. But mere crudity of execution is quite often a sign of indifferent workmanship or sheer deterioration as, for instance, in the Jodhpur Bhagavata painted by Govinda in 1610 A.D. The technique of the Gitagovinda pictures is doubtless old and more akin to that of fresco painting than almost any other Gujarati painting that I have seen; and all I would like to affirm is that the manuscript cannot be later than the 1st quarter of the 16th century. How much earlier it is, it is not possible to say with any degree of accuracy.

My friend Mr. O. C. Gangoly has a feeling that the pictures of the manuscript may "belong to the earlier phase—revealing the style in the making rather than later compositions". I have learnt to be somewhat cautious in the matter of dating Indian paintings as well as sculptures. A Ragini series, for instance, with all the characteristic marks of the period of Akbar were, by a definite inscription, a hundred years later, and it is well known that the style of the Jaina manuscripts remains constant over a period of two to three centuries. On examination of the existing material I would be content to date this particular manuscript between the latter part of the 15th and the early years of the 16th century.

The significance of the ends of sarees being drawn over the head should also not be lost sight of. This is doubtless a later development and would point, therefore, to the Gita-govinda being subsequent to Vasanta Vilas. It is known that the saree as known now, came into vogue early in the 16th century.

The bourgeois art of Gujarati manuscript painting seems to have retained its individuality till about the end of the 16th century and though it continued to produce richly illustrated documents, its native characteristics were submerged into the new

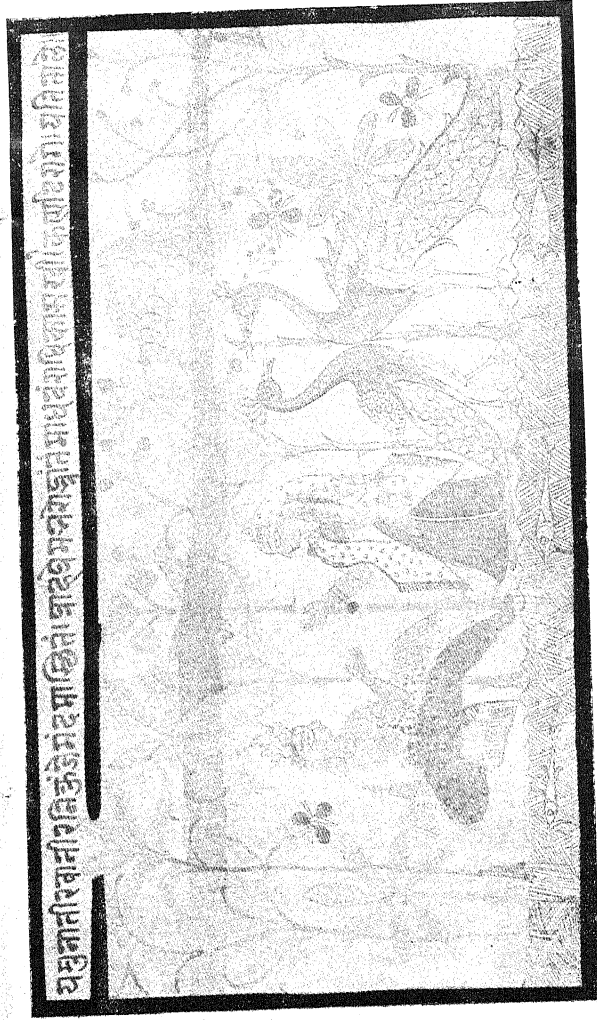


PLATE I



PLATE II

आनलतरलकुवलयनयनेना। एतानि न सा किं याभि देह म स्त्रियार मिता यन मालिना। प्रवयदे॥ ॥
 नालयदायनेना॥ शुभरी गगण गीयते॥ २॥

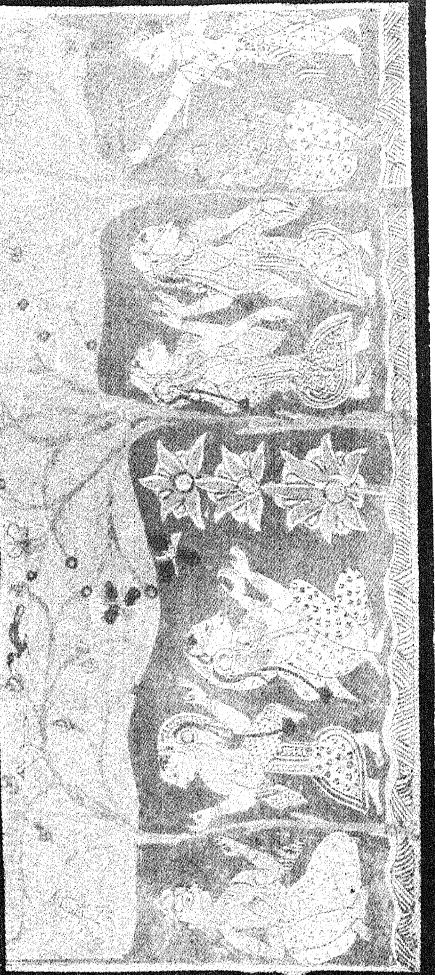


PLATE III

नील नलिना नमपित द्वित्वलोचने धारयति को
 कनक्षुपाकुसुमद्वारवाणभावेन यदिरजयसि
 ह्यमिदमेतदवद्वय॥६॥



पुरुकुलकुलनयोरुपयसि मणिमंजरी रजयुतय
 रुदयदेवा रमभुरसनापितवधनजापलमडले॥
 क्षीययतुमनशा निरेव॥५॥ ॥७॥



PLATE IV

idiom of the Rajasthani and the Pahari schools which continued to exist vigorously till almost the first quarter of the 19th century. From a pure pictorial point of view the present manuscript constitutes a valuable, racy, and even elegant interpretation of Jayadeva's masterpiece, which it should not be forgotten, was composed at a time when the emphasis on erotics seems to have been greater in the art of the country than either before or after.*

APPENDIX

Plate No. 1.

Mādhava is seated on the banks of the Jamuna, a conventionally depicted stream with fishes. The trees depicted appear to be plantain, palm, *kadamba* with bees prominently hovering round the red blossoms. Krishna is shown in red flowered pyjamas with a long tassled waist-band with flowing ends. He is shown wearing the usual ornaments and a *Mukuta*, while the friend of Rādhikā is wearing a red blouse and a skirt covered over with a white *Chundri* with red fringes and flowers. She has the usual flowing braid of hair and the auspicious woollen fringes round the wrist. The exact significance of these tassels and fringes needs further investigation, for it appears to have been a general weakness—whether in the East or the West—and there is something more than mere conceit in its widespread use, which disappeared from vogue sometime in the 17th century.

The arrangement of the picture remains one of a first-rate mural. The trees with their wide spaces and their columnar and parallel heights make an effective background for the love-lorn Mādhava waiting for Rādhā. On the right of the picture is seen a peacock and his mate in dalliance. It is Spring and the world of nature—whether of human beings or of birds or bees or of vegetation is full of colour and movement. The Sanskrit inscription at the top is only a reminder of the scene rather than the subject-matter of the picture.

Plate No. 2.

There is very much more movement in this panel—folio No. 94. The costumes are interesting and lively, and there is even a suggestion of emotion on some of the faces. On the left of the picture young Krishna seems to be in trouble with a bearded and

* Since the article was written about 18 months ago, some extremely interesting data regarding Gujarati painting in the 15th century, if not earlier, have been found primarily due to the courtesy of my old friend, Muni Jinavijayaji of Bhāratiya Vidyā Bhavan, and that famous bibliophile and scholar Muni Punyavijayaji Maharaja. The material consists chiefly of manuscripts illustrating the story of Madhavānala and Chaura Panchāshikā as well as some very beautiful *viñapti-patras* or the letters written by the Jaina laity. An unusually illustrated wooden panel has been found perhaps of the period of Hemachandra. This also must wait for a detailed study. The new material is not only interesting on account of its inherent value, but also because of its unusual aesthetic qualities. It is also interesting to note that a place like Cutch appears to have been a centre of artistic activities, though at present it is only distinguished by its unusual and outmoded currency and the almost defunct textile work of exquisite patterns and some rather beautiful traditional silverware. I propose to write about this material separately. The new material and particularly the variety of subjects depicted make it undoubtedly clear that the Gujarati school had wide geographical extension and considerable and justifiable vogue in the days of its glory.

irate gentleman armed with a long stick and dressed in flowing and angular *jama* and typical Jaipuri shoes. The turban is also interesting. The principal characters are picked out against a yellow background with an arch of red and green at the top. The whole scheme of these paintings is reminiscent of wall paintings rather than of miniatures. The waist-bands and the *dupattas* and the multi-coloured *angarkhas* and pyjamas are characteristic of this interesting period of Hindu paintings. It is not possible to describe in detail the particular episode which is illustrated in this particular folio. The figure of Krishna is repeated three times, and this repetition doubtless indicates three incidents of a particular episode. Krishna talking to the *gopi* on the left is shown wearing a peaked cap, while in the remaining two scenes he is shown wearing two different kinds of turbans.

Plate No. 3.

Folio 105 shows the *dramatis personae* picked out against a background of deep red in a grove with blossoming trees and humming bees and clamorous birds on the banks of the Jamuna. The God of Love with his flowery arrow is seen in the extreme right with Krishna desolate and struck with love. The centre of the picture is taken up by lotus blossoms shown almost in a vertical section. It should also be noted that some of the birds and bees are shown only outlined in ink. The way in which the draperies appear to impart not only volume but also movement.

Plate No. 4.

Folio 123 represents the meeting of Krishna and Radha with the God of Love carrying his flower tipped bow on the right shoulder. Kāmadeva is also dressed in a flowered pyjama with white angular *angarkha*. In these Gita-Govinda pictures the standing posture of the right foot bent round the knee and resting on the knees of the other leg is frequently encountered with as the figures of Krishna and Kāmadeva in the present picture. The exact significance of this particular attitude is not known to me. The landscape follows the conventional pattern, but the swift drawings of the figures and the variety of poses and gestures are somewhat noteworthy.

A BRIEF SUMMARY OF "STUDIES IN HISTORICAL GEOGRAPHY AND CULTURAL ETHNOGRAPHY OF GUJARAT"

By

H. D. SANKALIA.

[In November 1944 I had delivered a course of five lectures on "The Historical Geography and Cultural Ethnography" or "Peoples and Places from inscriptions of Gujarat c. 300 B.C. -1300 A.D.", in the Thakkar Vassonji Madhavji Lecture Series of the University of Bombay. In the last lecture, I had, on the strength of the evidence discussed in earlier lectures, dealt with :—

- (i) the Aryanization of Gujarat ;
- (ii) the extent of Aryanization ;
- (iii) the linguistic changes undergone by the inscriptional place-names and their modern equivalents ;
- (iv) the main features of the administrative units of Gujarat and the rest of India ;
- (v) the main features of Place-names of Gujarat and the rest of India, particularly the Deccan, Karnatak, and Bengal ;
- (vi) Personal names and general conclusions therefrom ;
- (vii) suggestions as to future work.

From the above items, I have omitted item No. iii and summarised VERY BRIEFLY the results of my investigations on items Nos. iv, v and vi, as these were too technical for the purpose of a general article, which is being published here with the permission of the University.]

Aryanization of Gujarat :

The place and personal names which occur in the inscriptions of Gujarat—from the earliest historical times till the 10th century—are mostly in Sanskrit, and a few in Prakrit. From the 10th century onwards we begin to get a larger percentage of Prakrit personal names, but still a number of names, both place and personal names, are in Sanskrit. We may say that the main or dominant feature running through all the names is Sanskrit. Can we, therefore, infer as has been done by some for other provinces,¹ that Gujarat was Aryanized or Sanskritized from a very early period ?

We cannot form a very definite conclusion, but before arriving at one we should take into consideration :—

- (1) the traditional view about Aryan culture in India,
- (2) the view of the linguisticians as represented by GRIERSON,²
- (3) certain recent hypotheses e.g. of Mr. MUNSHI,³
- (4) other extant ancient literature from Gujarat,
- (5) the language of Gujarat inscriptions,
- (6) the true nature of personal and place names occurring in inscriptions.

The traditional or orthodox or Puranic view is that India, particularly Āryāvarta, the Panjab and the Madhyadeśa, that is the Gangetic *doab*, was the original home of the Aryans. They lived there from time immemorial. According to this

1. *History of Bengal*, p. 293.

2. *Linguistic Survey of India*, Vol. I, i, p. 119.

3. See MUNSHI, *The Early Aryans of Gujarāta*.

view, therefore, it should not be at all surprising to find place and personal names in Sanskrit.

In direct contrast to the above is the view of Western Orientalists and some Indians also, that Aryans entered India in several waves of invasion⁴ or immigration and gradually spread over the country. In support of this GRIERSON (who published several volumes on modern Indian languages) said that these languages fell into two distinct sub-groups.

- (1) The inner sub-group formed by the Western Hindī, Pañjābī, Gujarātī, Bhilī, Khāndeśī, Rājasthānī.
- (2) The outer sub-group : Lāhndā, Sindhī, Marāṭhī, Oriyā, Bihārī, Bengali, and Assameṣe. E. Hindi belongs to the Mediate sub-branch.

Gujarātī, though regionally within the outer sub-group, was the only language which belonged to the inner group. But since it showed some points of affinity with the languages of Outer sub-group, such as Sindhī, it was probable that the original language of Gujarat was developed by Aryans of the outer branch, but subsequently considerably changed by the later domination by Aryans of the inner group.

The Aryans of the outer group might have entered Gujarat through Sind; those of the inner group from the north-east. For example, the Puranic Yādavas who colonised Dwarka from Mathura, and the later Śakas, Gurjjaras and others who came chiefly from the north and north-east, and the earlier Aryans who entered India from the north-western passes or through Kashmir.

Mr. MUNSHI not agreeing with this theory of Aryan invasion however holds that there were two groups of Aryans. One of them had remained for long in the Sapta Sindhu. Before the members of this group, such as the Paraśurāma Bhārgavas who later descended southwards, the other Aryan group represented by the Haihayas had already settled in the Narmadā valley. This is an ingenious compromise between the orthodox view and that of GRIERSON, but leaves the impression that in some distant past, when it is not specified, Gujarat was non-Aryan, but came to be later Aryanized by stages.

Two place-names help us to fix the limits of the Aryan expansion in Gujarat. These are Arbuda and Bhillamāla. In inscriptions of Gujarat, Arbuda occurs for the first time in two inscriptions of Bhīma II. In one of these it is called Arbudācala Mahātūrtha. In one of the inscriptions from Mount Abu itself, the village Ābūya, ostensibly derived from Arbuda, is mentioned.

Not only does Arbuda occur in these inscriptions from Gujarat and those of Rajputana and others of the early mediaeval dynasties of Northern India, in several Purāṇas, and the *Mahābhārata*, but it also occurs in some of the oldest hymns of the R̥gveda as pointed out by Dr. Sten KONOW.⁵ There it is described as the strong-

4. The theory of 2nd or many invasions proposed by HOERNLE and RISLEY, that in the 2nd wave or invasion the Aryans had no or few women with them, and therefore had married aboriginal women and thus modified their original type is not supported by later ethnologists like CROOKE and GHURYE, who have pointed out that there is no great physical change visible in the population from the Panjab to Hindustan and secondly the theory is entirely contradictory to the literary records of the Brahmins. (GHURYE, *Caste and Race in India*, p. 108).

5. *Aryan Gods of the Mitani People*, Kristiania, p. 25 ff.

hold of Śaṁbara and other *dāsas* or *dasyus*, who descending the hill-top carried away the cows of and otherwise harassed the Aryans. Indra is, therefore, praised for treading down the great Arbuda, in short, for conquering Arbuda and its lord Śaṁbara.

The later tradition about Arbuda seems to be based on the Vedic version, viz. that the mountain was placed in its present position by Indra, who was considered to have cut it off from some big mountain range, perhaps the Himalaya. The current tradition is that Mount Abu was formerly a level plain stretching to the Arāvalli. At one spot there was a chasm of unfathomable depth. This was filled up by Nandivardhana, a son of Himāchala. Since he could not walk, he was carried on the back of a mighty snake Arbuda. This new mountain, called after the snake, was steadied by the foot of Śiva.

Evidently some great geological phenomena are hinted by these traditions. Whatever may be the truth, the meanings of Arbuda, swelling, tremor, polypus, foetus, would well suit the traditional explanations.

KONOW examining the ethnological and linguistic data shows further that Śaṁbara and other *dāsas* or *dasyus* might have belonged to the aboriginal tribes, Niṣādas such as Śabarās, Bhils and others, Śaṁbara himself being of the Kolarian or what is otherwise known as Muṇḍā, as Austro-Asiatic tribe. For even now these tribes, pushed off from the north inhabit a large part of Central India, Chota Nagpur, Orissa, West Bengal and Madras Presidency, and speak Muṇḍā dialects, which belong to the Austric family of languages.⁶

That Bhils and Kirātas once lived in Rajputana and its neighbourhood, particularly its hilly tracts is shown by instances from later Rajput history, but particularly by the names Bhillamāla, Kirātakūpa, and Muṇḍasthala. The first name occurs in the recently discovered Saindhava plates from Kathiawad. Though it is identified with the more well-known word Bhinnamāla, a tract in Jodhpur State, it, in and perhaps before the 9th century, was known as Bhillamāla and not as Bhinnamāla. The ending *māla* as the word Bhilla is non-Sanskritic. The former is supposed to be a Dravidian word, derived from *māl*, meaning upland, plateau and even now used in Gujarātī for the upper storey or floor. Thus both linguistically and culturally the word is non-Aryan indicating that in the distant past the country was inhabited by non-Aryan, very likely Austro-Asiatic, tribes. This period would go back to the early Rgvedic times.

If these interpretations of Arbuda and Bhillamāla find further corroboration, then it would appear that Mt. Abu for some period formed the southernmost land frontier of the Aryans, advancing into India from the north. And further that the present Gujarat was not colonized by Aryans until some time later, unless we accept

6. These were recognised by P. W. SCHMIDT who in 1906 proved the existence of a great family of languages, spread over a very wide area. This family is supposed to be different from the Dravidian languages of South India and is divided into two sub-families: (1) Austro-Nesian, (2) Austro-Asiatic. The former included the languages of Madagascar, Indonesia, and the Pacific islands, the latter is scattered over Nearer and Further India. In India it must have been once spoken over a much greater area than at present. Now the most southern forms of Muṇḍā speech are those spoken by the Savaras and Gadabas of N. E. Madras, then in Central India, in Mewār the dialect is called Nahālī-Kūrkū. For details see *Linguistic Survey of India*, Vol. I, i. p. 34.

the theory that there was an invasion through Sind or directly from the sea, which occupied the coastal belt, and formed what is called the "outer band of Aryans".

Save this no references, even disparaging, are found to places in what is now called Gujarat and Kathiawad in Vedic literature. We cannot say whether Gujarat was or was not outside the pale of Āryāvarta as Bengal and Magadha were. By or during the Bhārata war, however, Dwārka and Prabhas on the coast, and Mount Raivataka a little in the interior of the present Kathiawad peninsula acquire great prominence, the former owing to the colonization, according to Puranic accounts, by the Yādavas from Mathura.

The other important place, Puranically, associated with the Aryans is Bhṛgukaccha on the mouth of the Narmada. Here according to the *Bhāgavata Purāṇa*, the Devāsura battle was fought at the end of the Tretā Yuga. This Bhṛgukaccha is a later Sanskritization of the Austro-Asiatic Bharukaccha. Originally, at least from the 1st century to the 8th century the place was called Bharukaccha, as the inscriptions of the Kṣaharātas, Kṣatrapas, Gurjjaras, Kaṭaccuris, Maitrakas and Rāṣṭrakūṭas testify. The word *Bharu* itself, according to Pryzyluski,⁷ as kindly brought to my notice by Dr. KATRE, has Austro-Asiatic features. Buddhistic tradition recorded in the 5th and 6th century *Divyāvadāna*⁸ says that Bhirukaccha was founded by one Bhiruka, after the ruin of the city of Raunika. Again the *Mahābhārata* informs us that the Śūdras had established this place. Thus the Purāṇic allusion might be referring to the battle between the Aryans and the aboriginal population, chiefly non-Aryan and Austro-Asiatic in origin. It is a pity that we cannot fix even the probable period of these events and thus say positively when Gujarat was Aryanized.

Under these circumstances, when the earliest literature in Sanskrit was produced in Gujarat we cannot say. From the extant specimens it would appear that *Bhaṭṭikāvya* is the earliest. But this poem attributed to Bhaṭṭi and supposed to be produced at Valabhī as well as the works produced at Bhinnamāla, such as the *Harivaṃśa Purāṇa* by Jināsena written in A.D. 783, cannot go beyond the 7th century. Most of the later literature is in Prakrit, and Apabhraṃsa, and some only in Sanskrit.

We have thus to fall back upon inscriptions. Among these, excepting the Aśokan edicts at Gīrnar, and 200-300 years later the short memorial inscriptions from Cutch and 2 to 3 later Kṣatrapa records, all other inscriptions beginning with the famous Rudradāman inscription are in Sanskrit. What does this signify? It signifies that already in the second century A.D. fine, chaste, classical Sanskrit had become a court language in Gujarat, and remained so for well-nigh a 1000 years and more. If any part of India is to be considered Aryanized earliest, *on the strength of epigraphic evidence alone*, it would be Gujarat, or more strictly Surāṣṭra. For the Rudradāman inscription is the earliest long Sanskrit inscription in India. Whether this early Sanskritization or Aryanization was due to colonization of the coastal strip by the hypothetical outer and earlier band of Aryans of GRIERSON, I am unable to say. If further evidence for this hypothesis is required, it may be sought in the Brāhmaṇa colonies at Prabhās, Girinagara and Damaṇa, to which Usavādāta made gifts of cows

7. "Emprunts Anaryens en Indo-Aryen," *Bulletin de la Société de Linguistique*, Vol. 29. (1929), p. 197.

8. Noticed by Agarawala, *J. Up. His. Soc.*, 1943, p.

etc., and later at Bharukaccha, Jambusara, Govattana, Badarasiddhi, Udumbaragahvara etc. all the places on or almost on the coast of Gujarat.

What was the extent of the Aryanization? Did all people, the laity and the intelligensia alike speak or understand Sanskrit? Though there is no satisfactory evidence on this point, it would appear that people, particularly the agriculturists and others, perhaps, did follow Sanskrit, though their language or the language of the common people must have been one of the dialects of Prakrit which according to GRIERSON had developed, along with the classical Sanskrit, from the earliest Aryan dialects, "the house language", preserved in Rgvedic hymns. If these latter are called Primary Prakrits, the language of Aśokan edicts and those referred to by Patañjali may be called Secondary Prakrits.⁹ For a large number of place-names are in pure Sanskrit, whereas the rest are Sanskritized. I have shown elsewhere how some of the names of Iranians and Śakas were Sanskritized. Granting that people could follow Sanskrit, we can see two processes how the then existing names were Sanskritized.

In some cases a purely, perhaps totally new Sanskrit name was given to a place after some prominent landmark or event; just as we have now replaced Bhāmburdā, a suburb of Poona, by Shivaji Nagar, and the old Girgam Back Road by Vithalbhai Patel Road. In other cases the existing names were Sanskritized. Witness how Andheri has been re-named Āndhragiri.

That such small but dominant culture stamps itself upon a large, ill-organized culture has been successfully demonstrated in the last 1000 years of India's history. In the end, of course, a resultant culture emerges, and that is what seems to have happened in Gujarat and elsewhere in India. For by the 12th-13th century even the language of the inscriptions becomes more and more Prakrit. It is possible that this was also due to other factors. Besides the weakening of the original Sanskrit culture, the increasing admixture of semi-barbaric people, pouring into Gujarat from the north and north-west and west as invaders, traders and so forth, and the appearance of new powerful forces under the Arabs, Afghans and Turks must have been responsible for this change. Had not Mahmud of Ghazna and Ghori upset the political equilibrium, Sanskrit might have remained a court language for some centuries more in Northern India. For as late as the 15th century when Muslim kings patronized Hindu poets, inscriptions, beautiful Praśastis, were composed in Sanskrit as the recently published Praśasti of Mahmud Begadā testifies.

In short, inscriptions show the prevalence of Sanskrit as a court medium for conveying grants of villages to donees. Since in majority of cases the place-names are in Sanskrit, or Sanskritized, we cannot form a true idea of the language of the common people, and say how they called a particular place.

But a comparison of these inscriptional place-names, with their modern equivalents would show what linguistic changes have occurred in these names, and what relation they have to the formation or structure of Gujarātī. In a few cases we might be able to detect the original pre-Sanskrit names.¹⁰

9. *Linguistic Survey of India*, Vol. I, i, p. 121.

10. Details are omitted.

Reconstruction of the Sārasvata Maṇḍala :

Identification of the place-names mentioned in Caulukya (Solanki) inscriptions, has enabled me to reconstruct the territorial or administrative units in Northern Gujarat. To summarize the results :—

It would appear that geographically the Sārasvata maṇḍala, "the home province of the Caulukyas", included the land between the north-east to south-west flowing Banas and the north to south-west flowing Sabarmati. Politically it comprised the Mehsana Prant (minus the Degham Taluka) of the Baroda State, parts of Palanpur and Radhanpur States and the Viramgam Taluka.

At present, the Mehsana Prant is divided into, beginning from the north, 1. Sidhpur, 2. Kheralu, 3. Vijapur, 4. Visnagar, 5. Mehsana, 6. Kadi, 7. Kalol, 8. Chansma, 9. Patan, 10. Harij, and 11. Dehagam mahals. The last, Dehgam is really an appendage, not forming a homogeneous whole with the other trans-Sabarmati group of Mahals.

Reconstruction of the *pathakas*, smaller units, within the Sārasvata maṇḍala, showed that :—

1. Dhānada Pathaka = Southern part of Palanpur State.
2. Daṇḍāhi Pathaka = Parts of Sidhpur, Visnagar and Mehsana, and perhaps Kheralu mahals.
3. Viṣaya Pathaka = Parts of Mehsana and Kadi mahals.
4. Cālīsā Pathaka = Parts of Kadi and Kalol mahals.
5. Varddhi Pathaka = Viramgam *tālukā* and parts of Chānsma *mahāl* and perhaps of Harij.
6. Gāmbhutā Pathaka = Parts of Chansmā, Patan and Sidhpur *mahāls*.
7. Vālauya Pathaka = Parts of Harij, Patan and Sidhpur *mahāls*.

We shall have at least one more *pathaka* when details of place-names in the Vijāpur and Kherālu *mahāls* come forth.

The correspondence between the size of the largest territorial unit and its subdivisions into *mahāls*, in Northern Gujarat, of the Gaikwads of Baroda and the Caulukyas of Anahilapāṭaka is pretty close. If the former have inherited the territory of the latter, have they also unconsciously inherited their administration system? No less than 5 centuries separate the two rulers. So direct borrowing is to be definitely ruled out. But tradition, as modified by centuries of Muslim rule and administrative experiments, might have guided the framers of the Baroda administrative system.

In the time of Sultans of Gujarat the province of Gujarat consisted of 25 *sarkars*. Akbar redistributed them into 16 *sarkārs*. Of these Pattana *sarkar* had 17 subdivisions or *parganas*. We have actually no idea how the Gujarat Sultans had divided their province of Gujarat. But since Akbar followed the existing system, only regrouping the territory, it seems that he recognized the necessity of dividing the entire territory into sub-units.

But we have seen that this territory, at least from the 11th century, was divided into no less than 8 sub-divisions for administrative and perhaps fiscal purposes. Hence the Sultans could be said to follow the tradition current before them. If they had more sub-divisions it was because they were foreigners and for better control

preferred smaller sub-divisions. Akbar borrowed from them when he conquered Gujarat and handed it down to the Marathas and the English.

Caulukyan Government :

Reconstruction of the Caulukya empire and one of its large units, the Sārasvata-maṇḍala shows the method of Caulukyan government. For better government the empire had to be divided into provinces and the provinces into sub-divisions. A comparison between the number and size of Caulukyan provinces and sub-divisions and those of the British, Gaikwad and Mughal provinces and sub-divisions has shown that the Caulukyan divisions were neither too small nor too large, considering their times when transport was much slower than today. In fact our comparison has shown a close correspondence in size between the size of the Gaikwadi *mahāls* and the Caulukyan *pathakas*, and the size of the British districts and Caulukyan *maṇḍalas*.

Not only in the division of their empire, but also in the actual government of its various parts the Caulukyas exhibited a high administrative insight.

With the king was a minister called Mahāmātya, Saciva or Mantri. The names of several of these we know from Caulukya records. They were selected irrespective of their cast or creed. Thus a Brāhmaṇa, Kṣatriya or a Vaiśya whether he be Hindu or Jaina could hold the appointment, though at times when the king was a bigot, partiality to a particular creed resulted, and proved ability was set aside.

The governor of a *maṇḍala* was usually called a Maṇḍaleśvara or Mahāmaṇḍaleśvara. In normal times a civilian was selected for this post. But when the province was newly conquered or lay on the frontier which must have been turbulent and its possession precarious a Daṇḍādhipati—literally a commander of the forces,—was appointed to such provinces. Thus under Bhīma I, Vimala, a Daṇḍādhipati was in charge of Arbuda (Mt. Abu) region, and during the reign of Jayasīṃha, Vāpanadeva held the governorship of Dadhipadra-*maṇḍala*.

What is remarkable is the existence of practices one thousand years ago exactly recalling modern practices. As we all know the British used to appoint an army chief to what are known as non-Regulation provinces. The North West Frontier province has only recently got a semi-democratic constitution, and India herself, due to exigencies of time, put under an ex-commander-in-chief. Similar needs give birth to similar results.

Each *viśaya* or *pathaka* was placed under a separate chief who was directly responsible to its immediate superior. We are thus told that in the reign of Viśaladeva, the chief of Varddhi-*pathaka*, viz. Mahāmaṇḍaleśvara Rāṇaka Sāmantasīṃha was subordinate to Amātya Nāgaḍa, whereas the chief of Vāmanasthali, Mahattara Śobhanadeva, was responsible in the first instance to Somarāja, the Mahāmaṇḍaleśvara of Surāṣṭra.

What was the relation between purely geographical boundaries, such as rivers, hills, forests and territorial units? Gujarat being purely an alluvial country, there are very few hills and forests, regions which would either bar territorial expansion or which could be regarded as effective land frontiers. Consequently we do not come across a unit named after a hill or forest. But there are a number of small and big rivers in both Northern and Central Gujarat. The *doabs* formed by these rivers made a territorial unit. Some of these are expressly mentioned, e.g., the *Antarmandali*, i.e. the Purna-Mindhola *doab*, *Antar-Narmadā*, probably the Tāpi (Tāpti)—Narmada

doab. Besides the larger rivers of Central and Southern Gujarat, it appears that the smaller rivers in Northern Gujarat, the Khāri, the Rupen and the Pushmamati, as the discussion of the size of the *pathakas* in the *Sārasvata-maṇḍala* shows, must have been used for fixing the size of the *pathakas*, whereas the Banās and Sābarmati formed the western and eastern frontiers of the territory on either side of the Sarasvatī, and hence was named after the river as *Sārasvata-maṇḍala*. Another such unit was the *Narmadāta-maṇḍala*.

Distribution of Population :

One small but important point also comes out from the identification of the place-names in Caulukya Gujarat. This is the distribution of population. We cannot have an idea of the number of people then inhabiting the province, for no census records, if there were any, have come down to us. But plotting the various villages on a map, together with the small and big roads, indicates that the villages were spread over Gujarat exactly in the same position as they are now. Very few new villages seem to have sprung up between the old villages. Rather we find some deserted sites of old villages. This might have been due to migration to urban areas. Any way our inquiry shows that during the Caulukyan times Northern Gujarat was populated in an identical manner as today, which seems to be neither too thick as in Central Gujarat or too sparse as in Cutch.

Rainfall in Caulukyan Times :

From the spread and distribution of the villages and population we may reasonably infer the climate, particularly rainfall, during the Caulukyan times. If the land supported as many villages as today, the quantity of rain (and the wells) which irrigated it could not have been, at least, much less than at present, but probably slightly more. A consideration of the weather reports of the last 50 years seems to favour the view that rainfall has not decreased in Gujarat, though popular view is that Northern Gujarat is slowly being deciccated. The evidence of historical geography here pointed out, may be valued for what it is worth.

Ancient and Modern Place-names :

A study of inscriptional place-names has shown that the following suffixes or endings were current.

-padra, vadra, -palli, -pallikā, -vallikā, -sthali, -sthāna, -draha, -hrada, -sara, -pātaka, -vātaka, -vāṭikā, -ijja or -ijja, -vasana, -vasahikā, -vādā, -pura, -puri, -nagara, -pattana, -durga, -siddhi, -sādhi.

The earliest occurrence of the ending *padra* in Kathiawad is in an inscription of the 2nd century A.D. Certain endings like *vasana, vādā* etc. are to be found in Caulukya inscriptions and confined principally to place-names in Northern Gujarat.

Comparison with the modern place-name endings from the Northern, Central, and Southern Gujarat, indicates that the place-names in Northern Gujarat have much greater affinity, and in much larger proportion, with place-names from Caulukya inscriptions. This is particularly true of the present place-name pattern in the Mehsana Prant. As we go southwards towards Central and Southern Gujarat, the pattern changes, the change becoming self-evident in the Navsari Prant. Even in these parts over 50 per cent. of the place-name endings can be traced back to antiquity. The

differences are due to the varying physiography in the three parts of Gujarat, as well as to the different political and cultural influences. If, for instance, Southern Gujarat has many place-names indicative of its varied drainage system and its hilly and forest areas, certain name-endings can be accounted for, by its closer physical and cultural contact with the Konkan and Mahārāshtra.

Consideration of the inscriptional place-names proper, apart from their endings, would indicate that there are a few names which seem to be after (A) names of gods (Indra, Varuṇa, Viṣṇu, Śiva, Sūrya, Candra). (B) Names of Men and Women (General and Personal). (C) Names of Tribes or People. (D) Groups and Profession. (E) Spirits. (F) Trees, Flowers, Reeds and Grasses. (G) Food Grains. (H) Foods and Drinks. (I) Natural and Artificial sites. (J) Birds and Animals (very few). (K) Articles of Trade and (L) Events.

The study of the endings or suffixes of place-names and their comparison with the endings of modern place-names as well as the interpretation of the names themselves has shown that

a majority of the endings can be traced back to a very early period. For instance Pāṇini¹¹ refers to "*nagara, pura, grāma, kheṭa, ghoṣa, kula, suda, sthala, karṣa, tīra, rūpya, kaṣcha, agni, vaktra, garta*, (all three used as an *uttarapada* in forming place names), *palada*, (meaning straw, weeds), *arma, vaha, hrada, prasīha, and kantiha*, supposed to be a Śaka name for 'a city.'"

Yet in different parts of Gujarat and Kathiawad certain endings predominate, for example *vasana* in N. Gujarat, and *sthali* in Kathiawad.

That although these endings denoted ordinarily a part of land, enclosure, a part of the village, etc., neither because these places had grown up or the endings had become part of the name itself, a second suffix, *grāma* was added on to these names. Till about the 13th century these endings persisted. With the advent of Muslim rule a number of old places came to have new name ending in *pura*, or *purā*, or totally new places arose bearing such endings.

Antiquity of places as well as new cultural forces were reflected in the names themselves. Whereas in the older names the percentage of names of deities and persons was not much, a fairly large number being after trees, lakes or ponds, some after animals, the new place-names were mostly after persons or deities such as Śiva (Mahādeva), Rāma, Hanumān, or later forms of Viṣṇu (Raṅgchod etc.). This shows how gradually the cult of personal gods as well as the tendency to perpetuate the memory of or eulogise an individual by naming a place after him had grown. This tendency though natural has been a characteristic feature of Gujarat and Gujaratis, as even a cursory census of names of houses owned by Gujaratis and Deccanis in Bombay, Ahmedabad, and Poona, would show. The Gujaratis being a largely business community incline to be more materialistic, and cannot think except in terms of money and their family, particularly the person who is supposed to be a fortune bringer whereas the Deccanis can think of such abstract and idealistic names as Ardhavirāma, Samādhi, for their houses. To a Gujarati even a small cottage is a Dhana or Manek-mahal or prāsāda, and a large house a nagar.

Some of the older place-names as Kaccha, Bharukaccha, Sābarmatī, Dāngarwa

11. Agrawala, *J. U. P. His. Soc.*, Vol. XVI, pp. 42-44.

have shown how characteristic they are of the physiography of certain regions of Gujarat. Whereas a further investigation into the names indicative of tribal migrations and colonisation would throw light on the ethnic composition of the population.

Names such as Vahichar have revealed the true antiquity of certain cults now prevalent in Gujarat.

Botanical and zoological names are few. This is not surprising considering the fact that though most of Gujarat is a rich alluvial plain, it cannot boast of a luxurious vegetation, except where special efforts are made to plant trees. So whatever names of trees inscriptions have provided are fairly representative of the botanical wealth of the country. Some more names of other trees will be had when place-names of the wooded regions of Southern and Central Gujarat will be studied. Inscriptions do not mention them because perhaps these areas did not directly fall within the then urban and rural expansion.

Gujarat Zoology has nothing special to offer, except perhaps the lion, whose name or of a person bearing such name, is probably enshrined in Simhapura or Sihor on the south-east coast of Kathiawad, whereas in Vaggaccha or Vyāgrāsa in Central Gujarat, seems to be enshrined the tiger, even now found in the forests of Rājpipla and other eastern regions of Gujarat.

The study of place-names alone thus gives us a glimpse of Gujarat, the land, and the people, and their cultural and physical environment.

Place-names of Gujarat both ancient and modern, can be compared in greater detail with those of Bengal and the Deccan Karmataka but my comments will be necessarily brief, limited only to the striking affinities and differences.

For Bengal we have the recent work of Goswami alluded to by me before. The inscriptional place-names of the Deccan-Karnataka from about 500 A.D.-1300 have been collected by my pupil A. V. NAIK, who is working on the archæology of these regions. The modern place-names have been gathered by my colleague Dr. Mrs. KARVÉ, who is studying them from the sociological point of view. I am indebted to these scholars for their kindness in allowing me to use the material collected by them for a comparative study.

As in Gujarat almost all the place-names from the 5th century onwards are in Sanskrit or Sanskritized. These characteristics generally seem to persist till the end, i.e. up to the 14th century in the inscriptions of the Deccan. Thus to take familiar examples, we have Puṇya and Puṇaka-ṣaya for Puṇe or Poona, Darppapūdikā for Dāpoḍī, Bheṣari or Bhavsari or Bhosari, Khambagrāma for Khamgam, Vorimagrāma for Boree, Dāḍimagrāma for Dolemba, and Ālandīya-grāma for Ālandi, Thiura for Theur; Araluva for Urli; Pālatthāna-ṣaya for Phaltan (State) and Muilā-nadi for the Mula river. Thus a Rāṣṭrakūta, 9th century, inscription accurately describes the topography of Poona and its vicinity, but in a vocabulary which is largely Sanskritised. Wherever the inscriptional names can be identified, the case will be found to be similar. Three centuries later Śilāhāra records called Thāna, Sthānaka, but as old Marathi is used in the actual grant portion, many of the place-names retain their existing Prakrit form. Are we to understand that till the 10th-11th century Sanskrit was the court language in the Deccan and understood by one and all?

With Karmataka the case is slightly different. Till about the 5th century the earlier Prakrit and the contemporary Sanskrit inscriptions of Kadambas and others

mention place-names which do not appear to be characteristically Kanarese. But the Kanarese influence begins to appear from the 7th-8th century onwards, so that the actual grant portion, including the names of persons and places can be easily described as old Kannaḍa.

A few examples of place-names endings will illustrate the point. In the Deccan place-names we have the endings *pura*, *nagara*, *vāṭi*, *vāṭikā*, *vāḍā*, *vāḍi*, *valli*, *palikā*, *sthāna*, *-iya*, *kā*¹²; in Karnataka, we have a few *purās*, *nagaras* with the principal name in Kanarese or at times in Sanskrit, but a large majority like Anṇigere, Itṭage, and endings with *li* or *lī*, and *paṭṭi*. Not only the general ending *grāma* uncommon, but many of the so-called Sanskrit suffixes or endings are rare, and the names themselves in Kanarese. In this respect Karnataka seems to have shaken off the Sanskrit influence much earlier or imbibed it less than either the Deccan or Gujarat.

But much more surprising appears to be the fact that in the Deccan epigraphy there is not a single place-name after the 6th century with the ending *padra*, *vadra* or *vasana* and a few only with *pāṭaka*, *paṭli* and *valli*. *Padra* is found in an early Āndhra inscription, once for a place in the present Nasik district and the other for a place in the present Thana District. Are we to assume that the *padra*-belt of place-names belongs to Gujarat and other Northern regions, and had spread in the 3rd-4th century up to Nasik in the South? The conclusion seems to be very startling and I would leave it as it is, unless further corroboration is available. If it is confirmed, it would further show that the writers of epigraphs did not so tamper with the then existing names while Sanskritizing them as to change them completely, but remained true to their inherent regional forms. For place-names endings in *-padra* are found in the Rāṣṭrakūṭa inscriptions from Gujarat, while they do not occur in those from the Deccan and Karnataka.

Another significant difference is that already in the Deccan-Karnataka records of the 8th-9th century we find the place-names ending in *ē*, for example Kīṇayigē, Karandigē, for places found about Kolhapur, Cāṇidigē, Mirīṅge. This *ē* ending is a characteristic feature of the modern place and personal (surnames) names in the Deccan. Since in inscriptions it largely occurs in place-names in and on Karnataka border, it would not be surprising if it is ultimately proved to be of Karnataka or Dravidian origin.

Rarely the *-e* ending is found in the old as well as new place-names of Gujarat.

The Deccan being a hilly and plateau region, place-names indicating or bearing on its physiographic features will be found. We would await with interest the results of KARVE's and NAIK's studies about place-names of the Deccan, when further detailed comparison with Gujarat place-names will be possible.

In Bengal the inscriptional evidence regarding place-names does not take us at present beyond the 6th century A.D., though we have a limestone plaque from Mahāsthān of the Mauryan period which mentions Puṇḍanagala (Puṇḍranagara). But from 400 A.D. the evidence is available in an unbroken chain right up to 1200 A.D. Here too GOSWAMI has noted that many of the place-names are in Sanskrit or Sanskritized with a good sprinkling of Deśī names, though he has not traced their deve-

12. Probably there were diminutive suffixes.

lopment, and said whether in the later records we get more Prakrit names than in the earlier period. GOSWAMI has also not clearly classified and grouped the various endings. But analysing the names we get the following endings. (I have omitted some where I was doubtful of the true ending.)

Pātaka > Pādā > Pārā	Valli
Vātaka	Tenkari
Vṛndaka > vana	Khādi
Sikā	Kaṇḍi
Gohali > goal	Ḍāhara
Puñjaka	Thāna
Kuṇḍa > koṇḍa	Nagara
Avakāsikā	Khāmbhava > Khabha
Vīlati > Vādī (?)	Bhīṭṭa > Bhīṭṭi or Bhiṭa
Jotikā or Yoṭa > Joṭa > Jola	Goccha
Vāṭa	Guḍi
Carmmaṭa > Cammaḍa > Cāmṛā	Vola
Vādī	Pokhari
Roṭṭikā	Pāla
Voraka > Vola > pola	Bhoga
Pallikā	Muṇḍa
dvipa	

Even after the omission of a few doubtful ones, the list is much larger than that of Gujarat inscriptional place-names. Among the Sanskrit endings common with these from Gujarat are *pura*, *nagara*, *pātaka*, *vātaka*, *vāṭa*, *vādī*, *pallikā*, *valli*. There is the total absence of *padra* or *vadra* and *vasana*, or even *sara*, though there are many others for lakes, ponds and other types of drainage. *Palli* and *valli* are comparatively very few. *Pātaka* becomes *pādā* or *pārā* in modern Bengali.

But the rest, a fairly large number, are characteristic of Bengal, a land of large rivers, and numerous large and small water-courses, and a land which was for long beyond the pale of Aryan civilisation, and even now has on its north-eastern as well as on its western and southern borders pockets of primitive tribes, probably aboriginals of the land.

Expressive of its varied drainage system are the endings *Jotikā* or *Yoṭa*, modern *Joṭa* or *Jala*, *Khādi*, *Khāri*, (ditch); *Kuṇḍi*, *Ḍāhara* and *pokhara* (pond), *Avasikā* or *Sikā* (channel) and *Vāpika*; so also are the expressions "*Sataṭapadmāvāṭi*, house on the bank of Padmā," signifying the way how large a number of people live on the river; indicative of other types of homesteads are the endings *Bhīṭṭi*, *Bhīṭi* or *Bhitā*. Indicative of the marshy character of the land are the endings—a large number—*vīlati* or *vādī*; Bengal's extensive fields *voraka*, *vola* > *pola*; its groves and forests, *puñjaka*, *gaccha*, and *vṛndaka*; of its hills and hillocks endings like *Tenkeri* and *Kuṇḍ* > *koṇḍa*.

Correlating some of the ancient place-name endings with modern Bengali place-names, GOSWAMI finds that "the endings *jola*, *joli*, *jota*, *jotikā* meaning channel, water course, river-water are quite abundant specially in the districts of West Bengal." So also the place-names with the ending in *kuṇḍa*, *kuṇḍi* or *koṇḍa* (high land).

Modern place-names in deltaic Bengal abound in names of various fishes, one of the most common dishes of the people.

Since I am not dealing with modern place-names, it is not necessary to follow further GOSWAMI's studies, but it is necessary to note his conclusion that many of the endings show Dravidian, Austro-Asiatic and Tibeto-Burmese affinities. Thus *jola*, *bhīṭi* or *bhīṭi* (house), *guḍḍi*, *gaḍḍa*, *guḍi*, *pola* and *vola* (field) *kunḍa* (hill or hillock) are similar to or identical with words in the Dravidian languages, Tamil, Telugu and Kanarese.

Those ending in *munḍa* or *da* betray Austro-Asiatic or Munḍa or Kolarian influence, whereas words *co* or *ca* meaning water are supposed to be of Tibeto-Burman origin.

These place-name studies reveal how Bengal, which according to later Vedic literature was not Aryanized for a long time, in spite of its later rapid Aryanization, still retains many of its varied non-Aryan traits; while Gujarat and the Deccan show a greater degree of Aryanization. Bengal being nearer to the primitive cultures of the Far East, and as even now is surrounded by these, has more of the non-Aryan Austro-Asiatic and Dravidian elements, while Gujarat on account of its proximity to the Northern Aryan culture has a preponderance of its elements. However, some names and name endings do point to the earlier (?) Austro-Asiatic cultural phase in Gujarat.

Prehistoric Archæology also seems to favour this view. For the Stone Age industries of the Sābarmatī, Narmadā, Orsang and Karjan valleys, most probably of the Middle Pleistocene period, the first geological period when man came to live in what is called Gujarat, show such resemblance to the geologically earlier South Indian industries that in our present state of knowledge it appears that Early Man with his stone age culture came to Gujarat from South India.

Personal Names :

Personal names from inscriptions from other parts of India have not been so far studied. My studies of the Deccan personal names of the early centuries of the Christian era incline me to the view that these names,—the sources of which are the donatory inscriptions at Bharhut, Sanchi, Bodhgaya and Mathura,—which were mostly inspired by the new faiths, Jainism and Buddhism, or the existing Rudra and Nāga cult will show more or less the same features as shown by the Deccan names found in the caves in the Western Ghat, and at Amrāvati, Jagayyapetta and Nāgarjunikoṇḍa in Āndhra.

After the 4th century the names are mostly of Brāhmaṇas and are in Sanskrit. But here too the Karmāṭaka inscriptions of the 6th century and later show distinct Kanarese touch. Whether these or inscriptions from other parts of India will be so rich in names of the common people as some of those of Gujarat, I cannot say off hand. Very probably not. But these when collected and studied will throw additional light on the results obtained by place-name studies.

Summarising the evidence presented by inscriptions of Gujarat on the nature of names, the practice of naming in a family, and the Brāhmaṇa gotras and Vedic Śākhās, and on comparing it (this evidence) with the practices enjoined by law-givers, or codifiers of laws the following tentative conclusions are indicated.

Since we have no early inscriptions contemporary with the Vedic texts, or even

the Ḡṛhya Sūtras, the latest of which are assigned to the 4th, 5th century B.C. at least, we cannot pass any judgment on the actual practice during this period.

After nearly a 1000 years excepting the names of Śaka Kṣatrapas which indicate the popularity of Rudra cult, and the influence of Buddhism on one of the kings, we meet with names in some bulk from the Gurjjara records. Their study showed that most of the names of Brāhmaṇas were Nakṣatra names, but names of the personal deities, like Viṣṇu and Śiva were also current, a practice enjoined by the Viṣṇu Purāṇa. Likewise besides the orthodox suffixes, Brāhmaṇas had begun to append non-Brāhmaṇa suffixes to their name.

Both these practices indicate almost complete non-observance of the rules laid down even in the latest Ḡṛhya Sūtras and a literal interpretation of the vague rules prescribed by Manu.

The names of Brāhmaṇas from the Valabhī plates point to a still larger variety of names, some even completely Kṣatriya-like and followed by an equally rich variety of suffixes. Whereas their richness is indeed remarkable, they do not show in our present state of knowledge, that the bearers of the suffixes were Nāgara Brāhmaṇas, as Dr. D. R. BHANDARKAR had postulated 20 years ago and that the endings are not indicative of families of Brāhmaṇas, resemble as they do to the endings of Kāyastha names in Bengal.

Two centuries later a variety of a slightly different nature is seen in the suffixes and prefixes of the Rāṣṭrakūṭa Brāhmaṇas. In them we can see the beginnings of some of our present day surnames, Dvivedī, Trivedī, Dīksita. The names themselves show the greater and greater hold the cults of the personal deities were having on the people.

This conclusion as to the rise and rapid growth of the cult of personal gods, and the gradual disappearance of purely Vedic religion and practices is in full accord with the evidence from archæology, coins and monuments.

But even among the names of personal deities—Śiva and Viṣṇu, we see the occurrence of certain names only, pointing to the later increase in their names, as different aspects of these deities came to be emphasized or invented.

How very exactly reflective of the contemporary usages, and religions are the names is shown by the fact that there is not a single name after Gaṇapati, or Hanumān, and only a couple or so after Rāma and Brahmā. This conclusively indicates, as I have already shown from purely archæological studies and as also our study of place-names testifies, that the cults of Rāma, Hanumān, and Gaṇeśa are comparatively very recent. That of the Gaṇeśa not earlier than the 9th century and of Rāma-Hanumān definitely post-13th century.

The study of Brāhmaṇa Gotras and Vedic Śākhās showed that up to the 11th century the Brāhmaṇas of the Mādhyandina Vājasaneyya Śākhā preponderated over others, among which there were a few R̥g and Sāma Vedis and a sprinkling of Atharva Vedis. This proportion is maintained till today. Among the Gotras, the earliest and of most frequent occurrence are the Bhāradvāja, Vatsa and Ātreya Gotras, three of the four or eight most ancient gotras.

So much for the pre-Caulukya Brāhmaṇas. Unfortunately the evidence for the succeeding period relates to people who are not Brāhmaṇas. Hence we cannot find

out what further changes took place in the Brāhmaṇa names. Among the non-Brāhmaṇa names all the few names are after Śiva, or Viṣṇu and none after nakṣatra deity. Whether this was becoming a general practice we cannot say for certain. It appears that it was, for we find Vijñāneśvara citing an earlier commentator on the *Yājñavalkya Smṛiti* (?) saying that a father should give a name connected with a family deity. Thus the practice had come to be legalised. But whereas we observe this expansion of the rules in naming a child in the orthodox codes, we find that most of the names of the Jainas and others falling outside even this expanded codes. Barring a few which are after Jaina Tīrthaṅkaras, others seem to be neither after Nakṣatras, nor personal deities. What is the reason? I think that it is so, as I have already suggested on the evidence of name-endings, because these people belonged to a foreign ethnic group. To accommodate these names and incorporate their bearers into the ever tolerant and expanding Hinduism, we find the later law-givers saying that a name could be given after the letters assigned to each *pāda* of a Nakṣatra. A very wide basis was thus secured, giving people more room within which they could choose the name they should give to the new-born. Uptil now this practice was followed. But again a new current has set in, due to political and cultural reasons. Will these new practices be legalised or will religion be completely thrown overboard, and have no voice as far as the naming of a child is concerned?

In the Caulukya period we have the earliest reference in Gujarat of the functional,¹³ and "regional" sub-castes, as well as professional and other designations which have now been turned into surnames; so also the earliest occurrence of the word "Bāi" as an honorific, perhaps due to Turkish or Arabic influence, first used along with the old word Devī, in the names of women, and then gradually supplanting it, till it itself is being supplanted by another foreign word Miss or Mrs. brought by new culture contact. Many of the present sub-castes such as Porvād, Dharkāṭṭa, Osvāla, Śrīmāla were originally, as Srimālis are even now, regional sub-castes, giving no indication as to the *varṇa* of the people. And probably many of the Porvād and other families, originally foreigners, Śakas, Hūṇas or belonging to other Central Asian tribes as their name endings show were first Kṣatriyas and then Vanīks. But it must be noted that at this period these were not endogamous, as marriage between Prāgvaṭas, Moḍhas, Oṣavālas are recorded. Later these groups did prohibit marriages, among themselves. Now once again Porvāds and Moḍhas inter-marry.

Thus the survey of personal names in Gujarat over 1600 years has revealed how gradually certain features of its social structure were being formed, which at the end of the 14th century had reached a form approximating very nearly the form existing today. Some other features, for instance the ending *-lāl* which is now found as a suffix to names of Brāhmanas, Kṣatriyas, Vaiśyas and all others, and the suffix *-ji* in names such as Nāgji Bhimji had not yet appeared. The social, political and religious causes which were responsible for bringing about the new additions to the already existing stock of names and suffixes seem to develop during the first 300 years of Muslim rule in Gujarat. For both these suffixes appear in the names occurring in inscriptions of the 16th-17th century. A full and complete investigation of the causes here indicated

13. These must have been already there, as these have been noted elsewhere in India from at least the 1st century A.D.

and their effect on the social structure is urgently desirable, as shown by me elsewhere.¹⁴

The study of inscriptional places and peoples has thrown light on several aspects of ancient and early mediæval culture of Gujarat and their corresponding modern counterparts. But this has been from one side only. What is necessary is to make the subjects discussed in these lectures more exhaustive and comprehensive. Then only we shall know how far the conclusions or suggestions arrived at are wrong and need modification.

Actual field work, visit to every village identified or now mentioned in revenue and postal directories is necessary. The investigator should note in this survey the physical, geographical, or traditional causes which are supposed to be responsible for the name of the place visited. He should also note the different ways in which the name is pronounced and written by the various communities inhabiting the village.

Side by side with these we must have a corpus or two of place and personal names occurring in early mediæval Sanskrit and Prakrit literature. Another similar corpus from Arabic, Persian, and the 16th century and later Gujarātī and Marāṭhī and Modī papers of the Maratha period, and the early maps prepared during the East India Company's period.

Collation of the data from all these sources of the post-thirteenth century and the pre-thirteenth century inscriptional and literary data will give us a regular series of names of places and peoples, wherein the historian and the linguist will find the missing intermediate forms so necessary for the true reconstruction of cultural history of a region.

Attention should also be devoted to the collection of surnames by castes and sub-castes, noting wherever possible the original, traditional or otherwise, place of residence and the profession followed by the members say 50, or preferably 100 years ago. Such a study alone can reveal the various social and cultural factors underlying a surname. For welcome as is the study of Gujarātī surnames by Mrs. Vinodini NĪLAKANṬHA it does not go far enough.

Cognate to this is the study of Brāhmaṇas. As I have said previously WILSON's and ENTHOVEN's study, admirable as they were for the period when they were written, give us but few details. Since these pioneers wrote, good work is being done by the School of Sociology, but probably for want of suitable students the work is very slow. Unless it can be expedited and the several Brāhmaṇa sub-castes systematically surveyed, followed at the same time by their anthropological survey, as is being done in the Deccan College Research Institute, Poona, no fruitful results will be obtained. Meanwhile the evidence is fast disappearing or being more and more contaminated.

So much for the semi-linguistic, historico-geographical, sociological and anthropological studies. I turn now to the investigation of history through archæology. Students of Gujarat's historic archæology know that very little is known about Southern and Central Gujarat, whereas we do know something of Northern Gujarat and Kathiawad through the surveys of surface monuments in the last century by Burgess and Cousens.

14. *Bulletin of the Deccan College Research Institute*, Vol. VI, p. 77.

How are we to search for fresh monuments? Either there must be some clues which when followed up may reveal the hidden or even surface monuments and its true historic value or there must be a systematic survey, taluka by taluka as Mr. Gadre of the Baroda Archæological Department was doing up to last year, since 1934, but which is now stopped for want of assistants. This work is both costly and long.

Here the inscriptions can help. They sometimes refer to a temple or other monument erected at a certain place. If this place is identified, then a visit to the place will most probably lead to the discovery of the monument. Even where no monument is mentioned in inscriptions it would be worth while to investigate all those places which have been mentioned in inscriptions or other records and identified. The identifications give invaluable clues as to the antiquity of the place. And in the absence of regular village-to-village surveys, the only and the most important clues. A personal visit to these places may show besides surface monuments in many cases the ancient mounds. The study of these mounds, the debris strewn over them, might lead us to ancient potsherds, the most indestructible and important evidence of the once existing habitation at the place.

The present study of place-names has brought to light a number of such places in Southern, Central, Northern Gujarat and Kathiawad. These should now be visited and systematically investigated. The investigator need not confine himself merely to the archæological account of the place. He should interest himself in its complete cultural history. Previous training and interest in the subjects dealt with here should enable him to prepare a full "case-history" of the areas he visits. These will form the basis for all subsequent archæological, linguistic and sociological investigations.

My studies have revealed only a few facets, in some cases very dimly indeed, of Gujarat's past culture through historical and cultural geography and ethnography. These must needs be supplemented soon by several field surveys. How these should be tackled has been briefly indicated above.

When and whether the regional Universities will come into existence one does not know. But it is not too much to hope that various research institutions in Gujarat, besides the University of Bombay will make provisions for these archæological, sociological and linguistic studies. If started in the near future on a well planned scheme and worked out systematically by a trained body of workers we shall have in a decade or so the true basis for writing a comprehensive history of Gujarat.¹⁵

15. I must thank here the University of Bombay for allowing me to publish this summary, before the lectures are published by them. I also take this opportunity of thanking my friend Dr. S. M. Katre, the Director of the Deccan College Postgraduate and Research Institute, Poona, for helping me in working out the geographical and ethnographical data from inscriptions and the Manager, Huzur Political Office, Baroda, for lending me the Census Reports of the State.

“સાંબરશીંગા કુંકણા*”—મુંબઈ ઇલાકાની ગૂજરાતની આદિવાસી પ્રજા ઢાંકોરભાઈ ભાણુભાઈ નાયક

(This is a preliminary note on the 'Antelope-Horned' Konkanas of the Dangs area in Gujarat. The males of this tribe tie either the horns of an antelope or *sabar-singha* or a crown made of *baru-reeds* and wear it on the head on festivals like marriage or dancing. This head dress compares favourably with that of the Bison-Horned Marias described by Dr. Elwin.—EDITORS.)

કુંકણા મુંબઈ ઇલાકાની આદિ પ્રજામાંની એક છે. એમની સંખ્યા ૧૯૪૧ ની વસ્તીગણતરી પ્રમાણે નીચે મુજબ છે:—

પ્રદેશ	વસ્તી
સુરત	૪,૩૬૧
થાણા	૯,૨૪૮
પશ્ચિમ ખાનદેશ	૨૯,૬૧૧
નાશિક	૪૫,૯૬૧
વાંસદા	૨૦,૨૬૧
કુલ	૧,૦૯,૪૪૨

સુરતનાં ડાંગના જંગલોમાં એમની ઘણી વસ્તી છે. આ માહિતી ત્યાંનાં વધઈ, દોડીપાડા, કેળાત, કુરકચ, ઇશળ, ગોવરી, ચીકઝા, રૂઢમાળ, સુખમાળ વગેરે ગામોની દશ દિવસની મુસાફરીમાં કરેલ અભ્યાસ પછી લીધી છે. સુરતનાં ડાંગમાં બી.બી. એન્ડ સી.આઈના બીલીભોરા સ્ટેશનથી ગાયકવાડની નાની રેલ્વેને રસ્તે જવાય છે. વધઈ એનું છેલ્લું સ્ટેશન છે. વધઈથી જંગલોમાં જવા માટે થોડે સુધી મોટર મળે છે. પછી તો પગરસ્તે જ જવું પડે છે. રેલ્વે ઉપર લગલગ અનાવલના સ્ટેશનથી જ જંગલો શરૂ થાય છે.

પશ્ચિમઘાટ ગૂજરાતની સરહદે પણ ઘણે સુધી વધી નીકળે છે. ડાંગના ડુંગરો પણ એ ઘાટના વધારા જ છે. એ ડુંગરો ગૂજરાતની આગળ સરહદને ઢાંકી રાખે છે; અને ગૂજરાતનાં બધાં જ જંગલો લગલગ એ ડુંગરોમાં જ આવેલાં છે. આમ ડાંગનું જંગલ ગૂજરાતની પૂર્વ હદે આવેલું છે. ઘાટની પેલી બાજુ નાશિક જિલ્લો અને સુરગણાનું સંસ્થાન લાગી રહેલાં છે. ઘાટની આ બાજુ વાંસદા, સુરત અને ગાયકવાડી રાજ્યોની હદ મળે છે. અંબિકા નદી અને તેને મળતાં નાળાં કાતરડાં આ જંગલોમાંથી વહી જાય છે.

ડાંગનાં જંગલ એના સાગને માટે ખૂબજ પ્રખ્યાત છે. મે-જૂનને સુકે મહીને રસ્તે પડી રહેલા પચાસપોણેસો પુટ લાંબા અને એકદમ ગોળ એવા સોનલરંગી સાગો જોઈને ગમે તેને એ પ્રદેશની કિંમત સમજાય જાય છે. હેઠ, સીસમ, સાદોડો, અને તણુચ એ બીજાં બહુપ્રયોગી ઇમારતી ઝાડો અહીં થાય છે.

* કુંકણાની ભાષા બે કોંકણી કહેવાતી હોય, અને બે ગેઝેટીઅરના કહેવા પ્રમાણે દુર્ગાદેવીના દુકાળવખતે ઉત્તરમ આવી વસ્યા હોય, તો એઓ અસલ કોંકણા હોવાનો સંભવ છે. એમનું નામ પણ આ સૂચવે છે. ‘કુંકણ’ માં ૯-૧૦ માં સૈકામાં આખા સૂરત સુધીના કીનારાનો સમાવેશ થતો. સ્થળોના નામ, ભૌગોલિક સામ્ય વિગેરે જોતાં દક્ષિણ ગુજરાત એ કોંકણનો જ ભાગ છે. માટે સંભવ છે કે આ કામ અસલ તળ કોંકણી હોય અને ગુજરાતની નહીં !!

મહુડા, ચારાળી, વાંસ, કરંજ, સેવન, ખેર અને વડ એવાં બીજનાં તો નામ ગણાવતાં જ પાર ન આવે. આંખા, આંખલી ખાસ થતાં નથી; પણ, ફળાદોમાં કરમદાં, દિવાન આમળાં, વાંજણાં અને જાંબુનાં ઝાડો અહીં પુષ્કળ થાય છે. વળી પહાડી ઝરણાંને કાંઠે જંગલી કેળો પણ થાય છે.

પ્રાણીઓ તો ડાંગમાં પુષ્કળ જોવામાં આવે છે. વધધથી આહવા જતા મોટરૂઢવરો એમની ગાડી સાથે અથડાયેલા બેચાર વાઘની વાત જરૂર કરશે જ. લાલ માંકડાં, સસલાં, સાખર, શિયાળ, જંગલી બિલાડી અને રીંછ પણ અહીં જોવામાં આવે છે. ગાય, બળદ, કુતરાં અને મરઘાં તો અહીંના ડાંગીઓ પાળે જ છે. પક્ષીઓ પણ ઓછામાં ઓછા સેંકડો જાતનાં થાય છે. કાયલ, હાગડો, દેવતરસો, જંગલી મરઘા, મોર, ગીધ એ એમાંનાં જ. અહીંના જંગલી સુડાઓ પકડીને ડાંગીઓ કાકકાક વાર રૂપીઓ, આઠ આના કમાય છે.

ડાંગનું જંગલ, ગમે ત્યારે, એની નીરવતાથી જોનારને હેરાનપરેશાન કરી મૂકે છે. મે-જૂનમાં તો પાંદડાં ખરી ગયાં હોય, સાગ સીસમનાં ઝાડો કવાયત કરતાં લશ્કરની માફક ઉભાં હોય તે વેળા વાંસનો કીચુડ કીચુડ અવાજ ખારીક પણ સંભળાયા કરે. આ વખતે રસ્તા ખુલ્લા હોય છે. એટલે અવરજવર થઈ શકે છે. પણ જુનનાં બીજાં ત્રીજાં અઠવાડિયાં પછી નવો વરસાદ આવે અને રસ્તાઓ બંધ થઈ જાય. પહાડો ઉપર જાતજાતના વેલા ભગી નીકળે, સાપો બહાર ફર્યા કરે અને થોડા દિવસોમાં તો જંગલ આખું લીલુંજમ થઈ જાય. ઝાડપાન અને વેલાજુંફાની રચનાઓ બે કદમ આગે શું છે તે પણ જોવા દેતી નથી. આ વખતે જંગલ આખું કાઠપિણુ જાતની પ્રવૃત્તિઓ વિનાનું હોય છે. પછી તો દિવાળી આવે, દિશાઓ ઉજાળવાળી બને, રસ્તાઓ વપરાવા માંડે અને જંગલમાં લાકડાં કાપવાનું કામ શરૂ થાય. હેમંત શિશિર સુધી જંગલ એવું રહે; વસંતમાં એની શાભા બહી નીકળે છે. મહુડે મહુડે પુલ બેસે, જાંબુને મોર આવે અને પલાશ પણ લાલ વેશભુષા સજે. ડાંગની ગમે તે ઝડપમાં એના ડુંગરાઓ ઠેકા અને એકની ટોચે જઈ ઉભા રહો. ચારે બાજુ વનાચ્છાદિત ડુંગરા જ ડુંગરા, અને જાણે સ્વર્ગ એક જ વેંત છેડું!! ડાંગ ખરેખર ડાંગ જ છે: જંભીર પણ રળીઆમણું અને નીરવ તોય રૂઆબદાર.

આવા પ્રદેશમાં રહે છે આપણા કુંકણાઓ. અહીં બીજી પણ ઘણી રાત્રી પ્રજાઓ છે: બીલ, કાટવારીઆં, મુરલી અને વરલી વગેરે કુંકણા. રંગે કાળા, લગભગ પ'-પાા' ઉંચા અને પહોળાં નાકવાળા છે. તો ય એમનામાં કેટલાંકનાં નાક ઠીક ઠીક તીણાં અને લાંબા હોય છે. કુંકણા પુરૂષને મોંએ ખાસ વાળ હોતા નથી. એમની સ્ત્રીઓ એમના કરતાં ઉઘડતા રંગની હોય છે; અને કાઠકાઈ સ્ત્રી તો ઘણીજ સુશ્રી હોય છે. બોમ્બે ગેઝેટીઅર લખે છે: “દેખાવે એ લોકો થાણાના વરલીઓ જેવા છે. ૬૦ સં ૧૩૯૬-૧૪૦૮ ના દુર્ગાદેવીના મોટા દુકાળ વખતે એ લોકોને ઉત્તર તરફ આવી રહેલું પશું હોય. એઓ ગૂજરાતી મરાઠી મિશ્રિત બોલી બોલે છે.”

એમની ભાષા કાંકણી કહેવાય છે; અને ગ્રીસરસને પોતાના ‘સર્વે’માં એને નોંધી છે. કાંકણી ભાષામાં ગૂજરાતી મરાઠીનું મિશ્રણ હશે ખરું પણ એ બોલી એકલી ગૂજરાતી મરાઠી જ નથી. એમાં કેટલાય એવા શબ્દો છે જે ગૂજરાતીમાં કે મરાઠીમાં વપરાતા નથી. ડોસાને ડવર, દેવતા-અમિતે ધસ્તો અને કરીએ પાડીએ માટે કારજન પાડજન એમ કહેનારા કાંકણાને પોતાની આદિ ભાષા કાઠિ હોવી જ જોઈએ એમ લાગ્યા વગર રહેતું નથી. ગૂજરાતી મરાઠી શબ્દો એમની બોલીમાં ખરા પણ એઓ શુદ્ધ ગૂજરાતી અથવા મરાઠી સમજી શકતા નથી. એમનાં ક્રિયાપદોને ગૂજરાતી અસર વધુ લાગી છે. ડેવી જા=મૂકી જા; માર ગડી=માર દોડ; ધસાં જ સાંગવાના=એમ જ કહેવાના: એ થોડાં ઉદાહરણો બતાવી શકાય. એમનાં ગીતોમાં હિંદુસ્તાની લીટીઓ પણ એ લોકોને બોલતા સાંભળ્યા છે.

આવી ભાષા બોલતાં કુંકણાં પહેરવેશમાં માત્ર લંગોટીથી ચલાવી લે છે. લંગોટી મારેલી હોય અને સુતરના કમરબંધે દાતરડું પાછળ લટકાવેલું હોય એટલે બસ. ઘરે હોય ત્યાં સુધી ઉપરના ભાગમાં કશું પહેરતા નથી. બહાર જાય ત્યારે બંડી પહેરે છે; અને માથે ફેંટા સરખુ કપડું વીંટાળી મૂકે છે.

એમનામાં કોઈકોઈ ખમીસ પહેરતા થયા છે. એઓ વાળ જુદી જુદી રીતે કપાવે છે. કેટલાક લાંબા વાળ રાખી પાછળથી પટ્ટાણની માફક કપાવે છે; કેટલાક માથે ધારી રહેવા દઈ ખીજા બધા વાળ કપાવે છે. કોઈકોઈ ચોટલી રાખે છે; અને કેટલાંક માથું ઓળેલું પણ રાખે છે. સ્ત્રીઓ ખાસ કરીને ઘુંટણની ઉપર સુધીની જ ફાળકી પહેરે છે. કોઈકોઈ પાછળથી કસ બાંધવાના આવે એવી ચોળી પણ પહેરે છે. ગામની વિશ્વસ્ત હવામાં કેટલીય સ્ત્રીઓ અને છોકરીઓ ઉઘાડી છાતીએ કામ કર્યા કરે છે. સાતઆઠ વરસ સુધી છોકરા છોકરીઓ કપડાં પહેરતાં નથી.

પુરૂષ અને સ્ત્રી બંને ધરેણાં પહેરે છે; પણ સ્ત્રી તો સ્વભાવે જ મંડનપ્રિય એટલે એનો હિસ્સો વધુ હોય છે. પુરૂષ તો બંને કાને કથીરની બખ્ખે મુડી અને પાટીલ જેવો ખમતો આદમી હોય તે આંગળીઓ રૂપાની વીંટીઓ પહેરે છે. કેટલાક કાને રૂપાનું સેરવાળું એક ધરેણું-જેને પગરા કહેવાય છે-તે પણ પહેરે છે. ચીકટ્યા ગામના કનોખાને પૂછતાં એણે મુડીની કિંમત બાર આના, વીંટીની બે રૂપીઆ અને પગરાની પાંચ રૂપીઆ બતાવી હતી. સ્ત્રીઓનાં ધરેણાંનો પાર નથી. ધાસનાં બીથી માંડી કાડીઆંની માળા અને કાચની સેર એઓ પહેરે છે. માથે પગરા, કોટે કથીરના હાર, કેડે સાંકળી, હાથે કળાં અને બંગડીઓ પણ એઓ પહેરે છે. કોઈકોઈ તો ઘણાઘણા રંગની સેરોનો બેડો હાર કરી પહેરે છે; આવો બહુરંગી હાર ઘણો સરસ લાગે છે. એમાંના રંગોની મીલાવટની પૂર્ણ માહિતી એમની કલાત્મકતાનો માનાંશ આપણને આપી શકે. કોઈકોઈ સ્ત્રીઓ કાડીઆંની સાથે રૂપાના સિકકાઓ થોડે થોડે અંતરે પહેરે છે, તો કોઈને ગળે માટ્ટણીઈ પણ હોય છે. છોકરાઓ મુડી સિવાય બીજું કંઈ પહેરતા નથી; છોકરીઓ કાચ-કાડીઆંની સેર અને બંગડીઓ પહેરે છે. બાઈઓ કાંસકાથી વાળ ઓળે છે અને વચ્ચોવચ સંધી પાડે છે.

એમનાં ધરેણાંની સાથે એમનાં હુંદણાંનો ઉલ્લેખ કરવો જોઈએ. હુંદણાં એ લોકો ગોંધાન કહે છે. ગોંધાન નાના આકારનાં હોય છે. કોઈ કપાળે પહેરેલી સેરના આકારમાં હુંદાવે છે તો કોઈ પુષ્પાકારમાં; કોઈ ચાંદલો જ કદાવે છે તો કોઈ માત્ર ગાલે ટપકાં જ. ગોંધાન પાડનારી ગોંધારીન કરીને એક રખડુ જાત આવે છે. જેને પડાવવાં હોય તે એમની પાસે ચાર આના આપીને પડાવી શકે છે. એને માટે કોઈ વચ મુકરર કરવામાં આવતી નથી. ગોંધાનનો મૂળ હેતુ શણગાર અને રૂપવર્ધન જ હોવો જોઈએ. એ સિવાય પણ ગોંધાન વિષે એમનાનાં જુદીજુદી માન્યતા છે: કોઈ એને “પરમેશ્વરનાં લિખાણુ” કહે છે, તો કોઈ માને છે કે હુંદણાં ન હુંદાવનારને ભગવાન મરી ગયા પછી હુંદે છે. ભગવાનની માન્યતા ઉપર પણ આ વાક્ય સારો પ્રકાશ પાડી શકે એમ છે.

હુંકણાના ઝુંપડામાં ખાસ કરીને જોઈતી જ વસ્તુઓ હોય છે. ખેતી કરનાર પાસે હળ હોય કાપકુપ કરવા માટે કુહાડી-દાતરડું હોય; અને કાંટા ઝાંખરાં લાવવા લાકડાનું શૂળ હોય. એમની પાસે માછલાં પકડવાની વાંસની ગુથેલી ઝીલી, શિકાર કરવાનાં ધનુષ્યાણુ, અને પાણી પીવા માટે તુંબડીમાંથી બનાવેલી ડોલી હોય છે. મરઘાં રાખવા વાંસના ટોપલા હોય છે. થાય એટલા ચોખા ખાંડવા કોઈકોઈ ઘરે ઉખડ અને મુશળ હોય છે. રસ્તા ઉપરના ગામને કોઈકોઈ ઘરે ઘંટીનો અવાજ પણ સંભળાય છે. રોટલા કરવાની કથરોટ, માટીનાં કલેડાં અને પાણી રાખવાનાં બેડાં લગભગ બધાં જ રાખે છે. એમના ધરની અને તેની અંદરના સઘળા સામાનની કિંમત કંઈ અકસ્માત જ જાણુવા મળી ગઈ. કેળાતનો બીખુ કહે છે: “મારું છાપડું થોડા દિવસ ઉપર જ બળી ગયું. ત્યારે ફોજદાર સાહેબ આવેલા અને તેમણે બધી બળી ગયેલી વસ્તુની ગણતરી કરી ૩૨૭ રૂપીઆ કિંમત ઠરાવી હતી.”

હુંકણાં સાધારણ ઝુંપડામાં જ રહે છે. એને એ લોકો ઘરાં કહે છે. ઝુંપડાં શંકુ આકારનાં હોય છે. એની ભીત હુંદેલા વાંસની બનાવવામાં આવે છે. બારણાં પણ વાંસનાં જ હોય છે. બારણાં બંધ કરી શકાય હોય તો ખખર પણ ન પડે કે અંદર જવાની જગ્યા ક્યાં ક્યાં હશે. કેટલાક ભીતને છાણથી લીપે છે; કેટલાક એમને એમ જ રહેવા દે છે. આ ઘરોનાં બારણાં પલાશનાં પાંદડાંથી “સીવવામાં” આવે છે. પાંદડાંના ઉપર ધાસ પાથરી એને લાકડાંથી દબાવવામાં આવે છે. ઘણાં ઝુંપડાંની બાજુમાં એકાદ માંડવો હોય છે. એની

અંદર એઓ પોતાનાં દોર રાખે છે. કોઈ કોઈ એ માંડવામાં ચોમાસા માટે લાકડાં રાખી મૂકે છે. ધાસ રાખી મૂકવાની એમને ટેવ જ નથી. પોતાને માટે અનાજ નથી સંઘરતા તો અન્યને માટે શું કામ ? ગામનાં ઝુંપડાં ભૂદાં ભૂદાં હોય છે. દરેક ઝુંપડાંની આબુઆબુ થોડી જમીન હોય છે. ઝુંપડાંને અને એ જમીનને ઘેરીને એ લોકો વાંસની ડાં-ડાં ઊંચી વાડ બનાવે છે. જમીનમાંનું અનાજ કોઈ પ્રાણી ખાય ન જાય અથવા કોઈ હિસક પ્રાણી જાનને નુકશાન ન કરે માટે એવી તકેદારી રાખવામાં આવે છે. દરેક ઝુંપડાંની આબુઆબુ આવી વાડ હોય એટલે ગામની અંદર ફરવું ભૂલભૂલામણી જેવું થઈ પડે છે.

એમનાં ઝુંપડાં વિષે એક જાણવા જેવી વાત આ છે. એ લોકો ઝુંપડાં વર્ષે એ વર્ષે ઉઠાવ્યા કરે છે; ને ખીજ જગ્યાએ બાંધે છે. જમીન હીર વિનાની થઈ જાય એટલા માટે ખીજ જગ્યાએ જમીન લઈ ત્યાં મુકામ નાંખે છે. કદાચ કોઈ મરી જાય તો ય ઝુંપડું ઉઠાવી લે છે. ગામમાં ફરતાં આપણને ઘણી જગ્યાએ જરા ચોકખી લીપેલી જમીન અને વચ્ચે ઉભેલો થાંભેલો જેવા મળે છે. પહેલાં તો નવાઈ લાગે કે આ શું ? પણ કોકણાની આ ટેવ ખબર પડ્યા પછી એ નવાઈ રહેતી નથી. ઉઠાવેલાં ઝુંપડાંનો માલ એઓ ફરી વાપરતા નથી; ને બધું જ નવેસરથી બનાવે છે. જંગલ વસવાટની આ ટેવ હિંદની ઘણી આદિ પ્રજાઓમાં જેવામાં આવે છે. ગ્રીગસનના કહેવા પ્રમાણે યસ્તારના મારીઆ તો ગામનાં ગામ બદલ્યા કરે છે. હૈદાબાદના ચેયુઓ પણ આમજ ફરતાં છાપરામાં જ રહે છે. ગૂજરાતના દુબળાઓમાં તપાસ કરતાં ખબર પડી કે એઓ આમ ઝુંપડાં ખસેડ્યા કરતા નથી પણ ઝુંપડાંમાં કોઈ માંદું પડે ને મરી જાય તેને એ લોકો કહે છે “જગા ધારી નહીં.” અને આવી નહીં ધારતી જગામાંથી છાપડું ઉઠાવી ખીજ જગ્યાએ બાંધે છે. આદિવાસી પ્રજાઓની આ ટેવને બે કારણો હોય શકે : એક તો આર્થિક કારણોસર એમને છાપરાં ખસેડ્યા કરવાં પડતાં હોય, અને ખીજું, આ ટેવ એમની અસલની ભટકવાની (Nomadic) વૃત્તિઓનું હજી નિમ્મર રહેલું લક્ષણ હોય.

એમની આર્થિક પ્રવૃત્તિ જાણવા જેવી છે. ખોરાક મેળવવા એ એમને માટે મોટી વસ્તુ છે. ઝુંપડાં પાસેની જમીનની ઉપર વાડ કરવામાં આવી છે. એને એઓ અનાજ પકાવવા વાપરે છે. એ લોકોને ખેડાય એટલી જમીન ખેડવા દેવામાં આવે છે, ને બદલામાં વરસના સાડા છ રૂપિયા લેવામાં આવે છે. આ જમીનમાં એ લોકો જીનના પ્રથમ દિવસોમાં લાકડાં, છાણાં, પાંદડાં વગેરેને બાળી એની રાખ ત્યાં ફરવા દે છે. કદાચ કોઈ નાનું સરખું ઝાડ હોય તે બળીને ખાખ થાય છે. આને “આદર” કરેલો કહેવામાં આવે છે. પરંતુ, જંગલ બાળીને ખેતી કરવાની, “ઝુમવાની” ટેવ એમનામાં નથી. હા, સાથે બળી ગયેલું ઝાડ એટલું તો બતાવે જ છે કે એઓને ઝાડ બાળી નાંખવામાં વાંધો નથી. પણ ધણે લાગે એમની ખેતી મેદાનમાં જ હોય છે. ત્યાં બહુધા ઝાડો હોતાં નથી એટલે એમના આદરને “ઝુમ” ન કહી શકાય. તદ્વપર એ લોકો આદર જમીન મેળવવા માટે નથી કરતા પરંતુ ખાતર માટે કરે છે : એ પણ એને “ઝુમ” ન કહેવાનું એક કારણ જ છે.

આદર કરેલી ભોંયને એ લોકો ખેડી નાંખે છે. કેટલાક હળ વડે ખેડે છે; કેટલાક લાથખેડીઆ પણ આવે છે. એઓ જમીનને લાકડે લાકડે ગુંદે છે. આવી જમીનની અંદર ચોમાસું સાધારણ ખેતું હોય ત્યારે એ લોકો નાગલી પીરી (= રોપી) દે છે. બાળુમાં થોડા અડદ કરે છે. આ સિવાય કોકોકાક જગ્યાએ વરીની ડાંગર પણ પકવવામાં આવે છે.

ખેતીની પેદાશ ઘણીજ જૂજ જાજ છે. એને ખીજ ઘણી ખાદ્યવસ્તુઓથી પૂરી કરવી પડે છે. એ લોકો માછલાં મારે છે; શિકાર કરીને પણ ખાય છે; અને ફળો ભેગાં કર્યા વગર એમનું પેટ ન જ ભરાય. મેન્જીનની સવારે નીકળે તો જંગલને પગરસ્તે પોસાપોસીઓ મોટામોટા ટોપલા ભરીને કરમદાં લાવતાં જ દેખાય. કોઈકોઈ દિવાન આમળાંની ટોપલીઓ ભરી મૂકે છે : ખવાય એટલાં ખાય, બાકીનાં ઘરે લઈ જાય. વાંઝણાં અને બંજીયાં ઉપર જ કેટલાંક છોકરાં રહેતાં સાંભળ્યાં છે. કેટલાક કુંકણા પથ્થરીઆં ઝરણાંને કાંઠે ઉગેલી કુમળી કેળા કાપી લાવે છે. એના ટુકડા એઓ હોંશિ હોંશિ ખાય છે.

ચોમાસામાં જ્યારે ફળો ન હોય અને અનાજ ખૂટી ગયું હોય ત્યારે એ લોકો ધોળી મુસળીની ભાજી અથવા કંદો ખોદી લાવીને ખાશીને ખાય છે. અનાજ સિવાય ફળાદિ ખાદ્યસામગ્રી એમની એટલી બધી છે કે ખેતીસંસ્કૃતિ પહેલાં એ લોકો કદાચ ભટકતી, ફળ ભેગાં કરનારી પ્રજાઓમાંની એક હોય તો નવાઈ નહીં. આ વાત એમના ઘણા જુના વસવાટ ઉપર સારો પ્રકાશ પાડી શકે એમ છે.

એમની આવી અનાજ, ફળ અને શિકારની જિંદગીમાં જંગલ-કોટ્રેક્ટરોના આવવાથી ઘણો ફેરફાર થયો છે. સંસ્કાર-અસરોની વાત બાજુએ મૂકીએ તોય એમની આર્થિક પરિસ્થિતિમાં જે ફેરફારો થયા છે તે જોવા જેવા છે. ચોમાસા પછીના આઠ મહિના એ લોકો કોટ્રેક્ટરો માટે લાકડાં કાપવામાં અને એને જંગલમાંથી દૂરદૂરને સ્ટેશને વહેવામાં ગાળે છે. એમને પોતાનું ખેતીનું કામ ચોમાસામાં જ ઉતાવળથી પાર ઉતારવું પડે છે; અને ફલચયન, શિકાર, વગેરે છોકરાંઓને માથે આવી પડે છે. એમને લાડું ફીકફીક મળે છે. ત્રણ દિવસમાં પૂરો થતો એક ફેરો એમને સોળ-સત્તર રૂપિયાનું લાડું આપે છે. અત્યારના સમયમાં સાંડું લાડું કરનાર વરસમાં બસોત્રણસો રૂપિયા સહેજે કમાય છે. પણ આ રૂપિયા એમની પાસે ટકતાજ નથી. કલાલની દુકાને એને મળ્યાં ઉઠાવી દેવામાં આવે છે. એ લોકો તો ખરેખર જ કહે છે ને: “એ કાગલોને કાચ કરે?”

લાડું વધારે, પણ એટલીજ ખીજ મુશીબત. લાકડાં ભરવા વેઠ કરવી પડે; રાતના ત્રણત્રણ વાગ્યા મુઠી કામ કરવું પડે. એ વખતની એ અનિચ્છા અને કાળી મજુરીમાં રસ રેડવા માટે એ લોકો આવાં ગીત ગાતા ગાતા લાકડાં ભરે છે:

	સુંબઈ, દીલું કેમ મેયલું
	હેઈસાં
લે રે જુવાનને જોરે	સુંબઈ, જરા કચેયડું
હેઈસાં	હેઈસાં
માર રે જોરે	સુંબઈ, માલો હરામી
હેઈસાં	હેઈસાં
* * *	સુંબઈ, દલાલી વાણીઓ
	હેઈસાં

લાકડાનાં વેપારને લઈને એમની આર્થિક સ્થિતિમાં આવેલા ફેરફાર ઘણી ખારીકાઈથી તપાસવા જેવા છે.

એમની ખેતી અને ફળ-ચયનની પ્રવૃત્તિ ઉપરથી આપણે એમનો સાધારણ ખોરાક કદખી શકીએ છીએ. એ સિવાય રોજનાં ખાવામાં એ લોકો નાગલીના ભાખુર (= રોટલા) અને સેકેલા અડદના લોટનું પાણીમિશ્રણ ખાય છે. દૂધ એઓ ભાગ્યેજ પીએ છે. પરોણા આવે અથવા તહેવાર હોય તો એ લોકો ભાતના લોટના રોટલા ખનાવે છે. સાથે દારૂ હોય અને એકાદ બે ભુંજેલાં મરઘાં હોય. છોકરાં શિકાર કરેલાં પક્ષીઓ રસ્તે જ સેકી ખાય છે. આમલીના કાતરા કે કરમદાં ઉપર પણ એ દિવસો કાઢે છે.

ડાંગી કુંકણાની હવે સમાજ-સ્થિતિ જોઈએ. એમનાં ગામો ચારચાર પાંચપાંચ માઈલને છેટે અને ડુંગરોની જુદીજુદી બાજુએ હોય તોય એમને એક ખીજ સાથે ખીડી પીવાનો માયાસંબંધ ખરો. એક ગામનો કુંકણો વધઈ જતો હોય અને ખીજો રસ્તે જતો હોય તો બંને સાથે જ જશે: છોને કલાક રોકાવું પડે. એકજ ગામના લોકો પરસ્પરને ઘરાં સીવવામાં મદદ કરે છે; અને એક જ ગામના જુવાનીઓ ભેગા મળી નાચે અને ગીતો પણ ગાય. કેટલાક ઉત્સાહી કુંકણાઓ ભેગા થઈ તમાશા પણ કરે છે. તમાશામાં એ લોકો એમની આવડ પ્રમાણે જરા મેલાંધેલાં પણ એટલાજ મૌલિક હાસ્યવાળાં નાટકો ભજવે છે. ગામનાં બાળકો અને શુદ્ધાઓ, બાઈઓ અને આદમીઓ એને જોવામાં રાતની ઘણી ઘડીઓ

ગાળે છે. કેટલાક વળી લાકડી ઉપર થાળી ફેરવતા ફેરવતા એમાંથી નીકળતા સૂરોની સાથે પરિસ્થિત મેદનીને વાર્તાઓ સંભળાવે છે. આમ એઓ ઠીકઠીક સંપમાં રહે છે ખરા.

ત્યાંની બીજી જાતો સાથે એમનો લાભાળું વ્યવહાર આપણને ધણોજ ગુંચવાડા ભરેલો લાગે. કાણ કોનું ખાય પણ કાણ બીજા ક્યાનું નહીં ખાય એની લાંબી નોંધ એઓ ઓલી જાય છે. એ બધી ગૂંચને ઉકેલતાં આપણને ખબર પડે કે: “કાટવાળ માંગનું ખાતો નથી; બીલ કાટવાળનું ખાતો નથી; કુંકણો બીલનું ખાતો નથી; પણ ચોધરો કુંકણનું ન ખાય.”

ન્યાત બહારના એવા સંબંધો જવા દઈ એમની પોતાની જાત ઉપર આવીએ તો જણાશે કે એ લોકોમાં કેટલાંક સર્પિડ (= exogamous) કુળો હોય છે. એમાંનાં કેટલાંક કુળો આમ ગણાવીએ : કુનબી, ગામીત, ગાયકવાડ, ચઘાણ, ચૌધરી, બધવ, બાગુલ, ભોયર, મહાલા અને રોડોડ. એક કુળના માણસથી પોતાનાં કુળમાં લગ્ન થઈ શકતાં નથી. કુળનો પૂર્વજ એક જ મનાય છે.

હવે કુંકુબ ઉપર આવીએ : એઓ બાપને બાસ અથવા બા; માને માઈ; ભાઈને ભાઉસ અને ભાભીને ભાભીસ; છોકરાને પોસો અને છોકરીને પોસી; દીકરા દીકરીને પણ પોસા પોસી; દીકરાની વહુને વહુસ કહે છે. મામાનો દીકરો જમાઈ અને દીકરી વહુસ તરીકે જ ઓળખાય છે. છોકરાને પોસા તરીકે જ સંબોધવામાં આવે છે. બધી ઉમ્મરના માણસોને માટે એકવચન જ ઘણે ભાગે વપરાય છે. સ્ત્રી પતિનું નામ લેતી નથી; પણ પતિ સ્ત્રીનું નામ સહેજે લઈ શકે છે. છોકરાં પરણે નહીં ત્યાંસુધી માબાપ સાથે રહે છે. પરણ્યા પછી છોકરી સાસરવાસે અને છોકરો જુદું ઘર માંડે. કેટલીક જગ્યાએ માબાપ લગત હોય અને છોકરા ભરમસાટ ખાતા હોય તોય એમને જુદા વસતું પડે છે.

એમનાં લગ્ન માટે છોકરાના બાપનું માગું જવું જોઈએ. માગું કબુલ થયા પછી એઓ ‘પેન’ ભરવાનો દિવસ નક્કી કરે છે. પેન ભરવી એટલે સગારનેહીઓને તેડાવી દારૂ પાઈ જાણ કરવી કે અમુકની સગાઈ અમુક સાથે થઈ છે. પેન ભરવામાં સાતઆઠ રૂપીઆનો દારૂ પાવો પડે છે. કુરકચના મલુ કોંકણાએ પોતાના લગ્ન પહેલાં દશ રૂપીઆની પેન ભરેલી છે. ‘દેજ’ પણ આગળથી જ દરાવી દેવાનાં આવે છે. છોકરીના બાપને છોકરાએ પચ્ચીસચાળીસ એમ દરાવેલું દેજ આપવું પડે છે. આ રકમ કંઈ નક્કી નથી. મુંબાડા ગામના બાબુએ ૪૦ રૂપીઆની, અને કેળાતના બીખુએ ૩૦ રૂપીઆની રકમ દેજમાં આપેલી. લગ્ન થવાનાં હોય તે પહેલાં વર વહુનાં કુંકુબ ધમાલમાં રહે છે. પીઠી માટે બંનેને દળેલી હળદર આણવી પડે છે. બધું થઈ ગયા પછી માંડવો બોદાય છે. માંડવાની ફરતે માંડવસુત બંધાય છે અને બંનેને પોતપોતાને ત્યાં પીઠી ચોળવામાં આવે છે. પીઠી ચોળતી વખતે બેસવાનો પાટલો પોટમામાએ (= સગા મામાએ) જ ધડેલો હોવો જોઈએ; પીઠી ચોળતી વખતે પલાંઈ વાળીને જ બેસવું પડે છે. બીજી ગમે તે રીતે બેસાતું નથી. લગ્નને દિવસે વરને તૈયાર કરી કપડાં આદિ પહેરાવતાં પહેરાવતાં એ લોકો ગાય છે:

કાય કાય વાધા ચઢે નવરાલા ?

કાય કાય વાધા ચઢે ??

બારશિંગ વાધા ચઢે નવરાલા,

બારશિંગ વાધા ચઢે.

જે પહેરાવતા હોય તેનું નામ ગીતમાં આવે. બારશિંગ બાંધવાની પ્રથા એમનામાં ખૂબજ પ્રચલિત છે. એના વગર ચાલતું નથી. એમની બારશિંગ બાંધવાની પ્રથાને લઈને શ્રી. પોપટલાલ શાહ જરા રમુજમાં ડો. એલ્વીનને સંભારી સૂચવે છે: એમને કેમ સાંખ્યશાંતિ કુંકણા કહેવા નહીં? લેખનું મથાળું એમ જ થયું છે. સ્વીકારાશે ?

પણ લગ્ન તો થઈ જવા દો. લગ્નને દિવસે વાળનાં અવાજ સાથે કન્યા વરને ત્યાં આવે છે. વરનો બાપ કન્યાના કુંકુબીઓને ભેટી માંડવે લઈ જઈ બેસાડે છે. બોમ્બે ગેઝેટીઅર લખે છે:

“અહીં વર-વહુને એક કામળા ઉપર બેસાડવામાં આવે છે. એમના હેડા ગંદાય છે. તે વખતે દીવાની સાક્ષી રાખવામાં આવે છે. આ પછી વરવહુ એક બીજાનું નામ બોલે છે; એને હેડા હોડી કાઢવામાં આવે છે. આમ લગ્ન થયેલાં ગણાય છે. તે પછી બંને પક્ષ ખૂબ નાચે છે. નાચી રહ્યા પછી વરબાપ બધાંને જમાડે છે. જમ્યા પછી છોકરીનાં સગાં ઘેર જતાં રહે છે. પાંચ દિવસે છોકરી પિયર જાય છે, ત્યાંથી એને પાંચ દિવસ પછી બોલાવી લેવામાં આવે છે.” કેટલીક જગ્યાએ બ્રાહ્મણોને પણ લગ્ન કરાવતાં જોયાં છે. નવરાનવરીની વચ્ચે અંતરપટ નાંખવામાં આવે છે. વરથી દલા થઈ છોકરીને જોવાતી નથી. એમાંથીજ કોઈ “એક ઘડીનાં લગ્ન લાગે;” એક પછી બે, પછી ત્રણ એમ “અદાર ઘડીનાં લગ્ન લાગે” ત્યાં સુધી કશાક ગીતની સાથે બોલે છે. અદારે લગ્ન પુરાં થાય છે. બધાં નાચીને છુટાં પડે છે.

આવી ધામધૂમથી કરેલાં લગ્નમાં લગભગ ચાળીસ પચાસ કે તેથીય વધુ ખર્ચ થાય છે. છોકરીનો આપ છોકરાને હાથનાં કળાં, ફાળકો અને પાઘડી લઈ દે છે. ઘરે ગાય વાસણ હોય તો તે યા દીકરીને આપવું પડે છે. આ બાજુ છોકરાને દેજ ભરવું પડે તથા નવી વહુ માટે એણે ચોળી ફાળકી વગેરે લેવાં પડે છે. આથી ગરીબ માણસને આવા પ્રકારનાં લગ્ન પોષાતાં નથી. આ સંબંધમાં દોડીપાડના પાંડુની વાત નોંધવા જેવી છે : “આયપતવાળો હોય તેજ લગ્ન કરે છે; મારા જેવો હોય તો પેન ભરીને જ બેરીને ઘરમાં લાવી બેસાડે છે.” જે માણસ દેજ આપી શકતો નથી છતાં પૂર્ણરૂપે લગ્ન કરવા માગતો હોય તેને સ્ત્રીના આપને ત્યાં દેજની રકમ વળી જાય ત્યાંસુધી ખંધાડિયા તરીકે રહેવું પડે છે.

વિધવાઓ એમનામાં લગ્ન કરી શકે છે. અહુપત્નીત્વનો રિવાજ પણ એમનામાં છે. પરણેલી સ્ત્રી પોતાના ઘણીને છોડી બીજા સાથે જવા ઇચ્છતી હોય તો તે જઈ શકે છે. આ નવા પુરૂષે આગલા ઘણીના દેજના પૈસા આપી દેવા પડે છે. એ લોકો કોઈની કાઠી મૂકેલી બેરી રાખવામાં પણ બાધ જોતા નથી. એઓ મામાકુઈનાં દીકરાદીકરીઓ વચ્ચે લગ્ન કરી શકે છે. છીનાળાના ઘણા પ્રસંગો નથી ખતતા; પણ કદાચ અને તો પુરૂષને બાર રૂપીઆનો દંડ કરવામાં આવે છે. આમાંથી અડધા પૈસા તો ન્યાતને દારૂ પાવામાં જ જાય છે. પછીથી તેની જોડે પેલી સ્ત્રીને પરણાવી દેવામાં આવે છે.

લગ્ન તો થયાં. હવે જીવન શરૂ થાય છે. ખેતી, શિકાર, ફળચયન, બિગાર અને ભાડામાં પુરૂષનો વખત જાય છે. સ્ત્રી ઘરે રહી બીજું કામ સંભાળે છે. જંગલમાં ફળ વીણવા જાય છે અથવા મહુડાંની ડોળી ફેલી તેને વેચવા નીસરે છે. બાકીને ઘણી ઘણી જવાબદારીઓ છે : છોકરાને ખાવાનું આપવાનું, ઘેર હોય તો તેના ચારાની વ્યવસ્થા કરવાની અને માંદગીમાં કોઈ બાળકને માટે હનુમાનને વીનવવાના. ઘણીને માટે રસોઈ બનાવવાની અથવા આદરીઆ ખેતરમાં છાણ નાખવાનું કામ પણ બાઈ જ કરે છે.

બાઈની પ્રવૃત્તિમાં એને માસિક અટકાવથી કંઈક રાહત મળતી હશે. તે વખતે એ છ દિવસ સુધી જુદી રહે છે. એનાથી કશાને અડકાતું નથી. એટલા દિવસ એ જુદું જ કરી ખાય છે. તે વખતે રાત્રિસહવાસ હોતો નથી. સુવાવડ વખતે પણ એને લગભગ બાર દિવસ સુધી જુદા રહેવું પડે છે. આ વખતે ય એને હાથે બનાવવું પડે છે; ઘરમાં કોઈ સ્ત્રી બનાવનાર હોય તો એની આ ધાંધલ મટે છે. પહેલી સુવાવડ વખતે નાગલીના રોટલા અને દારૂનું જમણ આપવામાં આવે છે; અને છઠ્ઠે દિવસે સ્ત્રીઓને જમાડવામાં આવે છે. દોઢ મહીના સુધી વરવહુથી સાથે નીજતું (= સુવાવડ) નથી. છોકરાનું નામ મહીને દોઢ મહીને દાયણ જ પાડે છે. કેટલાંકનાં નામ ભગત પાડે છે. કસુવાવડ વખતે એ લોકો બાધા રાખે છે; અને કેટલીક જળમાહિતીની દવાઓ કરે છે. આકડાનાં મૂળીઆં દરદીના માથા નીચે થોડીક વાર મૂકવામાં આવે છે અને છોકરું તરત જ છૂટી જતું મનાય છે.

એમની રોજબરોજની પ્રવૃત્તિમાં એમનો સહારો દેવદેવીઓ જ છે. એમના ખાસ દેવો હનવત અને વાધદેવ છે. ગામને આ હોડે અને પેલે હોડે હનવતનો પથરો તો હોવાનો જ. એના ઉપર એ લોકો સિદુર અને તેલ ચઢાવે છે. કોઈકોઈ એને આકડાનાં ધુલની માળા અને કરમદાં પણ ચઢાવે છે. હનવતના પથરો આગળ ધળ પણ હોય છે; અને પાસે તેલનો છીવો પણ કરવામાં આવે છે. એઓ હનવતમાં ખૂબ

શ્રદ્ધા રાખે છે. એક કુંકણાના કહેવા પ્રમાણે: “આ હનવત તો બહુ સારા. કંઈ થાય તો હાથ નેડવાના તે બોલવાનું, ‘મને સારું’ થઈ જાય તો એક નાળીએર ફેડીશ અને સિંદુર ચઢાવીશ.’ તરતજ સારું થઈ જાય છે.”

એઓ વાધદેવમાં પણ ખૂબ માને છે. વાધદેવનો ખ્યાલ આપવા એવા એકનું વર્ણન કરવું જ ઠીક થઈ પડશે: “વધધથી સુરગણાને રસ્તે જતાં ૧ માઈલ પર વાધદેવની લાકડાની મૂર્તિ છે. એ ૩’ ઊંચી, ૧’ પહોળી અને ૧૧” જડી છે. રસ્તાની સન્મુખ જે ભાગ છે તેની છેક ઉપર ચાંદો સૂરજ કાતરેલા છે. આની જરાક નીચે ઓળખી શકાય એવા ઊંચે ફૂલો વાધ છે. એની લંબાઈ ૬” હશે. એનું મોં ઉઘાડું છે અને પૂછડી વાંસા ઉપર છે. વાધની નીચે મોડું ચુંચળું કાતરેલું છે. એ કદાચ નાગની પ્રતિકૃતિ હોય. વાધદેવની પાછળ એક વાંસની લાંબી લાકડી છે. એક છેડે તેનો જમીનમાં દાખો છે, બીજે છેડે ખુલ્લો છે. એ છેડે દોરી વડે મરધું લટકાવવામાં આવેલું છે. આ કદાચ વાધદેવને ચઢાવેલી માનતા હોય.” વાધદેવને સિંદુર, નાળીએર, ડુલ વગેરે ચઢવાનાં જ.

બોમ્બે ગેઝેટીઅર એમના એક ત્રીજા દેવ ગણાવે છે. એનું નામ બ્રહ્મ છે અને લખે છે: “શમીના ઝાડ પાસે બેસાડેલા પથરાને બ્રહ્મ તરીકે પૂજવામાં આવે છે. એની પાસે એક દીપમાળ, માટીનો ઘોડો અને ધન્ય હોય છે.” આ વર્ણનમાં હનવત અને ખત્રી એ બંનેનું મિશ્રણ થઈ ગયું લાગે છે. કેટલાકો ખત્રી બેસાડે છે. તેની પાસે માટીનો ઘોડો અને માટીની દીપમાળ મૂકવામાં આવે છે.

એઓ આવાં દેવતા તત્ત્વોને માને છે. એમને તો ગમે તે મહીનામાં મનાવવા પડે. પણ તહેવારના દેવો એમના સારા. મહીના તો બધા હિન્દુ પંચાંગના જ; હોળીનો તરેવાર એઓ ધણુધણુ નાચી નાચીને ઉજવે છે; અને દિવાળીમાં તો એક રાતના એઓ ભાતના લોટનાં કોડીઆમાં તેલના દીવા પણ સળગાવે છે. તેજ વખતે એઓ ધરને ખૂણે અથવા ભીંત ઉપર ચુના વડે મોર, હળ, માણસ વગેરેનાં આવડે એવાં ચિત્રો પાડે છે. એઓ કહે છે: “ચોમાસું આખું કામ કરીકરી થાક્યા એટલે આનંદ કરવા માટે આવા સન કરીએ છીએ.” આવા સન આદિવાસી પ્રજાની બંકિમા કયાં સુધી જાય છે એ બતાવે છે. નીચે-ડરથાલ માનવીએ ઊંડીઊંડી ગુફામાં દોરેલાં ચિત્રો અને આ કુંકણાના સન એની વચ્ચે ઘણો ફેર માલુમ ન પડે તો નવાઈ નહીં. આના ઉપર વધુ શોધ કરવા જેવી છે.

દિવાળી જાય, હોળી આવે; ઋતુઓ આંટા માર્યા કરે. એટલે મરણનો પણ વખત આવે. નાનાં મરે, મોટાં મરે: સૌ કોઈને ઠેકાણે તો પાડવાં જ નોંધાએ. એન્થોવન લખે છે: “કુંકણા મૃત દેહને નવડાવી પીઠી ચોળે છે. પછી એને સ્મશાને લઈ જાય છે. ડાધુઓ નદીમાં નાંચે છે. ચિતા મરનારનો દીકરો અથવા નજીકનો સગો સળગાવે છે. શરીર અડધું બળી રહે એટલે ડાધુઓ મરનારને ઘેર જાય છે; અને ત્યાં તાડી પીએ છે. ત્રીજે દિવસે આઠ દસ માણસો સ્મશાને જાય છે; ચિતાની રાખ ભેગી કરી એને ઇંકારી દે છે; ને ઘેર પાછા વળે છે. ચોથે દિવસે ન્યાતીલાઓને જમાડવામાં આવે છે. મરનારની ચાંદીની નાની મૂર્તિ બેસાડવામાં આવે છે; અને તેની સામે બમ્બે ત્રણ ત્રણ દિવસે દીવો કરવામાં આવે છે.” રૂઢિમાળના કુપનો સિદ્ધા કારકુન જે જાતે કુંકણો છે તેના કહેવા પ્રમાણે: “અમારામાં જેટલા મરી ગયા હોય તેમની ચાંદીની મૂર્તિ તો હોય જ છે. તે બધીને એક સ્થાને ગોઠવવામાં આવે છે. એ સ્થાનને ‘પીઠી’ કહેવામાં આવે છે. કાઈકાઈ પીઠીનાં તો સાઠ સાઠ સીતેરસીતેર મૂર્તિઓ હોય છે. એ બધીની શરાધીઆમાં પૂજા કરવામાં આવે છે.” નાનાં છોકરાંને દાટવાનોજ ચાલ છે.

સામાજિક રિવાજો નોંધ્યા પછી એમનો સરકારની સાથેનો સંબંધ જરા નોંધ લઈએ. એમના ઉપર સરકારી હકુમત કારભારીઓ અથવા પાટીલ દ્વારા ચાલે છે. આ લોકો બીજા કરતાં ઠીકઠીક સ્થિતિમાં હોય છે. એમનું કામ સરકારી માણસોને બેસાડવાનું અથવા સરકારી કામે માણસો નોંધતાં હોય તો તે મોકલવાનું છે. એના બદલામાં એમને દરવર્ષે સો એક રૂપિયા આપવામાં આવે છે. ગામમાં જુદીજુદી વસ્તીઓ એટલે પાટીલ, કારભારી કુંકણાજ હોવા જોએ એવું કંઈ નથી. ચીકલ્યાનો કારભારી રાજવાડી બીલ છે.

આવા આ કુંકણાઓ લણેલા ન હોય એમાં નવાઈ જ નથી. એમને આંકડાનું લાન દશ સુધીનું છે. એ બધા મરાઠી એકા છે. પછીના આંકડા એ લોકો ગણતરી કરીને જ કહે છે. જેમકે પંદરને બદલે એઓ દશને પાંચ એમ કહેશે. ત્રીશ ને તિણિસ, સોને શંખર અને હળરને એઓ. ચંપો કહે છે. લાકડાના વેપારીઓ જેડે સંસર્ગમાં આવ્યા પછી એ લોકો પણ લાકડાનું માપ સાધારણ રીતે ખડું અનુમાની શકતા થયા છે. એક ગાડીમાં કેટલું લાકડું હશે તો એઓ જોઈને અડસદે કહી શકે કે દોઢ અથવા પોણા બે ગજ હશે.

લાકડાના વેપારીઓ તો આજકાલના; એ પહેલાં એમને કેટલીક સંસ્કૃતિઓ સ્પર્શી ગઈ છે. મુસલમાન સંસ્કૃતિ એમની જીભે થોડાંએક ગીતો મૂકી ગઈ છે કખીરનું નામ પણ એમને મોંએ ચઢી ગયું છે, એઓ બોલે છે :

હજરત નામા નામા રે કખીરે સાહી સાહીરે.

મુસ્લીમ સંસ્કૃતિ ઉત્તરમાંથી દક્ષિણમાં ગઈ હશે ત્યારે આ જગ્યાએ પણ પોતાની લાલોમંદ હવા લગાડી ગઈ હશે.

કોઈ કોઈ જગ્યાએ તો એમનું જીવન પ્રત્યેનું દરિયિન્દુ જાણે આપતાં હોય એવાં ગીતો સંભળાય છે :

પૈસાવાલાલા મોઢા સાંગિતલા,
મોઢા સાંગિતલા,
પૈસા ધોબન પીએલ કાજ ?
પીએલ કાજ ? ?

અથવા તો :

સોનારૂપા બનાયે મોહનીકા,
મોહનીકા.

બીજાઓ પાસેથી બારોબાર ઉપાડી લીધાં હોય તો એ ગીતોની જીવનદષ્ટિ એમની પોતાની ન પણ હોય* ગીતો ઉપરથી સંસ્કાર માપવામાં ખૂબજ સાવચેતી રાખવાની જરૂર છે.

આમ કુંકણા ઘણી ઘણી પ્રજાના સંસર્ગમાં આવ્યા છે. સંસર્ગમાં આવે એટલે સહેજે જ એમના રિવાજો માન્યતાઓ બદલાય અથવા વિકસે; અથવા તો કોઈ કોઈ વખતે દ્રાઢબલ શિસ્તનો લંગ એમને જોઈ રહેવો પડે. એટલે એઓ જરૂરે દિવસે એના તરફ આંખ આડા કાન કરે છે. એઓ જાણે છે કે આટલી બધી પ્રજાઓ બહારથી આવે છે એટલે જાતિ આખીનાં બેરાં કંઈ સચવાયા ન જ કરે. ગમે તેની સાથે ગમે તે ચાલી જાય. એને બધાંને ક્યાં પકડી પકડી દંડ કરવાના ? આવી બાબતો ઉપર એ લોકો લક્ષ આપતા નથી, અને એને હસી કાઢે છે. કોઈએ ગમ્મત ખાતર એક કુંકણાને પૂછ્યું : “અધ્યા ડાંગી આયકો મજે ખરી ?” પેલો હસીને કહે : “કેમ નહીં ? સાત આઠ રૂપીઆની પેન ભરી દે, અને બૈરી લઈ ચાલતો થા.” આમ નિયમો ફેરવાયાજ કરે છે. છેવટે દંડ પણ નથી રહેતો અને દંડની પ્રાર્થના અથવા આજીજી કરવી પડે છે—આટલું નહીં તો આટલું તો કરી જ.

આવા છે ડાંગના સાબરશીંગા કુંકણા. એમની સંસ્કૃતિ આપણે જોયું તે પ્રમાણે રખડતી, ફળ ભેગાં કરનારામાંથી બદલાઈ સ્થિતકુળક બની; અને આજે આપણી સંસ્કૃતિની મોટરો અને ટ્રેનો, હિસાબ અને કિતાબ, લુગડાં અને વાસણો, પૈસા અને ફેશન સૌની વચ્ચે આવીને ઊભી છે. ખ્રિસ્તી મિશનરીઓનું જોર અહીં ખાસ નથી. ૧૯૩૧ ની વસ્તીગણતરીમાં લખ્યા પ્રમાણે આ પ્રદેશમાં માત્ર ૩૦૦ જેટલાજ ખ્રિસ્તીઓ છે. આમ વિવિધ પ્રકારની સંસ્કૃતિઓ એને જાણે અજાણે ફેરવી રહી છે. આ બધાની અસરો શુભ જ થાય એટલા ખાતર એમની જેવી છે તેવી સંસ્કૃતિના પ્રાણને સમજી લેવો જરૂરનું છે.

REVIEWS

History of Ayurveda by Durgashankar Kevalram Shastri.—આયુર્વેદનો ઇતિહાસ. લેખક દુર્ગાશંકર કેવળરામ શાસ્ત્રી. ગુજરાત વર્નાક્યુલર સોસાયટી, અમદાવાદ. પૃ. ૨૯૫. રૂ. ૧.

શ્રી. દુર્ગાશંકરભાઈના પુસ્તકા અને લેખો બેઠે છું ત્યારે મને એક કોલેજ વિદ્યાર્થીનીએ પૂછેલો પ્રશ્ન યાદ આવે છે. પ્રશ્ન હતો કે “કલાપીને સાક્ષર કહેવાય કે ? કવિતો ખરાબ પણ સાક્ષર પણ ખરા કે ? તેવાજ પ્રશ્ન શાસ્ત્રીજી વિષે પૂછી શકાય. એને સાહિત્યકાર, વૈજ્ઞાનિક અને શૈવ ધર્મના સંપ્રદાયના રહસ્ય સમજાવનાર શાસ્ત્રી, કે આયુર્વેદ વિજ્ઞાનના પચીસ વર્ષ સુધી રહેલા વૈજ્ઞાનિક તંત્રી, કે ગુજરાતના રજપૂત સમયના પ્રતિભાશાળી ઇતિહાસવેત્તા કે ભાગવત ધર્મના અધ્યાપક કે ઝંકુ કાર્મસ્તુટીકલ વર્કસના ડીરેક્ટર ? તેમની આ બધી પ્રવૃત્તિમાં તેમને સર્વથી વધુ પ્રિય કાઈ ગણી શકાય તો તે આયુર્વેદ. આ પ્રમાણે આયુર્વેદનો ઇતિહાસ લખીને તેમણે પોતાના આયુર્વેદ તેમજ ઇતિહાસ વિષયક માનસિક સંક્ષોભનોને સ્વતંત્ર પ્રવાહોમાં વહન કરવા દીધા છે. તેઓ શ્રી પુરાતત્વવિવેચક તો છે જ પણ આ ગ્રંથને પુરાતત્વીય ઉદ્ધાપોહનું સંગ્રહસ્થાન બની જતો અટકાવવાની મતલબથી આયુર્વેદના ગ્રંથોના કાલનુક્રમનિર્ણય વિષે વધારે પડતી ચર્ચા કરી નથી.

પ્રાચીન વૈદક વિજ્ઞાનને અર્વાચીન યુરોપીય વૈદકીય જ્ઞાનની સાથે સખામણી કરવી એ અયોગ્ય અને અનુચિત ગણાય. મનુષ્યનું જ્ઞાન, મનુષ્યની ઉન્નતિની સાથે વિકસતું જાય છે. જંગલમાં વસતાં આદિવાસી ટોળાંના કરતાં આર્યોનું જ્ઞાન ધણાજ ઉચ્ચ પ્રકારનું હતું. અને તે પણ સમાજની ઉન્નતિ સાથે અને રાજ્યાશ્રયની સાથે વધુ અને વધુ વિકસતું જતું હતું. અથર્વવેદ ઇ. સ. પૂર્વ ૧૦૦૦ની આસપાસ રચાયો હશે, શતપથ બ્રાહ્મણ ઇ. સ. પૂ. ૮૦૦થી ૬૦૦ સુધીના સમયમાં, તે સમયના આદ્ય વિદ્વાનોના મૂળ ઉપદેશના સમય પછી સેકેડો વર્ષો સુધી ચાલેલ શોધખોળ, સુધારા વધારા અને ગ્રંથોના પ્રતિ સંસ્કાર પછી થયેલી ઇસ્વીસન પાંચમા શતકની ચરક સંહિતા, સુશ્રુત સંહિતા, અને ભેલ સંહિતા વગેરે સંહિતાઓ રચાયેલી. ત્યાર પછીના વાગ્ભટ જેવા ટીકાકારો અને ત્યાર પછીના કાળનું નિષંકુ સાહિત્ય, અને તે પછીના સંગ્રહગ્રંથો એ સર્વેમાં નવીનતા કે પ્રતિભા જોવામાં ન આવે તે સ્વાભાવિક છે.

પ્રાચીન હિંદની અનેક વિદ્યાઓને અર્વાચીન દષ્ટિએ તપાસીને ક્યાંથી ઉત્તમ તત્વોને સંગ્રહીને નવા અને જૂનાનું સંયોજન કરવું એ આ યુગની સર્વથી અગત્યની જરૂરીઆત છે. દેશમાંજ ઉત્પન્ન થતાં અને દેશમાં બનાવી શકાય તેવા ઔષધોનો ઉપયોગ કરીને, અને અર્વાચીન દષ્ટિએ સર્વગ્રાહ્ય થાય તેવા અને દેશની આર્થિક સ્થિતિને યોગ્ય રૂપમાં ઓછી કીમતે સર્વને પહોંચાડવાની જરૂર છે. પુરાતત્વની દષ્ટિએ, ઇતિહાસની દષ્ટિએ અને સાહિત્યની દષ્ટિએ શ્રી. શાસ્ત્રીએ આયુર્વેદના ઇતિહાસનું ધણુંજ રસમય, જ્ઞાનમય અને સુવાચ્ય સુંદર પુસ્તક લખ્યું છે. પણ અર્વાચીન સમયના બળો માગે છે કે એ પ્રાચીન જ્ઞાનને અર્વાચીન રૂપમાં ફેરવી નાંખવું, અને અર્વાચીન વસ્તુસ્થિતિ, રોગ નિદાન, અને રોગ ચિકિત્સાની પ્રકૃતિ પ્રમાણે આયુર્વેદનું પુનર્જીવન કરવું. તેમનાજ શબ્દોમાં “ચરક સુશ્રુતનો યુગ ફરી આવવાનો સંભવ નથી. છતાં પુનર્વસુ અને ધન્વંતરિનો આત્મા આ દેશના ભાવ વૈશ્વોમાં ગમે તે રૂપમાં પણ પ્રકાશ આપ્યા કરે એવી આશા છે.”

આયુર્વેદના પુનરુદ્ધાર માટે હવે ધણી કાલેજો, હોસ્પીટલો, અને અન્ય સંસ્થાઓને માટે અલગ નાણાં મળતાં જાય છે. આ સંસ્થાઓ કેવળ જૂના સિદ્ધાન્તો અને જૂની પ્રાણાલિકાઓના અંધ પૂજક અને પોષક ન બને પણ વિજ્ઞાનની પદ્ધતિ પ્રમાણે અન્વેષણ અને સંશોધનને યોગ્ય અને વિજ્ઞાનની પદ્ધતિ અર્વાચીન કે પ્રાચીન એમ જૂદી નથી પણ એકજ અને સર્વવ્યાપી છે એમ સમજીને વિવેક ભુદ્ધિ વાપરીને સત્યસંશોધનને માર્ગે આયુર્વેદનો ઉદ્ધાર કરે એ યોગ્ય છે. ઝંકુ કારખાનામાં બ્રીટિશ કાર્મકાંડીઓ પ્રમાણે ટીકચરો અને ઔષધિ બને, અને મર્કના જર્મન કારખાનામાં મકર ધ્વજ શુદ્ધ અને standard સુયોગ્ય રૂપમાં બને અને આર્યદેશમાં વેચાય, એ સમયની બલિહારી છે. સમયના બળોનો યોગ્ય ઉપયોગ કરીને

આયુર્વેદના ઇતિહાસ ખાસ કરીને શાસ્ત્રીજીએ કરેલા અર્વાચીન સમયના વિવરણ પરથી બોધ લઇને દેશની પ્રગતિ સાધવી જોઈએ.

પો. ગા. શાહ

અહુનવધતિ. અસલ અવસ્તા, સરળ ગુજરાતી તરજુમા સાથે. કર્તા. ડૉ. એરચ જ. સો. તારાપોરવાલા, મુંબઈ. ૧૯૪૫. પૃ. ૧૩૪.

ડૉ. એરચશાહ તારાપોરવાલા અંગ્રેજ અને વિદ્વાન ભાષાશાસ્ત્રી છે એટલું જ નહીં પણ સંસ્કૃત અવસ્તા અને ગુજરાતી સાહિત્યના અભ્યાસી અને લેખક છે. તેમણે આ નાનકડું પુસ્તક સરળ ભાષામાં લખીને જરથોશ્ત મહર્ષિના ધર્મની, અને ગુજરાતી સાહિત્યની સંશોધનની દૃષ્ટિએ અમૂલ્ય સેવા બજાવી છે. અવસ્તા સાહિત્યના સૌથી પુરાનન વિભાગમાં સૌથી પ્રાચીન ગણાતા પાંચ ગાથામાં “અહુનવધતિ” એ ગાથાનું સ્થાન સર્વોત્તમ ગણાય છે. આ ગાથા તેના પહેલા શબ્દો “યથા અહુવધિર્યો” ને નામે પણ ઓળખાય છે—જેની રીતે કેતોપનિષદ વગેરે ઉપનિષદો પહેલાં શ્લોકના પહેલા શબ્દો ઉપરથી ઓળખાય છે. સાધારણ જરથોશ્તીઓ સંકટના સમયે પણ “યથા, તારી મદદ” એ મંત્રથી શરૂ થતાં આ મંત્રોચ્ચારિથી આત્માનુ બળ અને શાન્તિ મેળવવા મથે છે.

ડૉ. તારાપોરવાલાનું સંસ્કૃતભાષાનું અને હિન્દુધર્મનું જ્ઞાન આ જરથોશ્તી ધર્મના મહામંત્રને તુલનાત્મક ધર્મશાસ્ત્રની દૃષ્ટિએ સમજાવવામાં મદદરૂપ થયું છે. જેની રીતે કૃષ્ણજન્મ પહેલાં ધરતીમાતા ગાયત્રું રૂપ લઈને બ્રહ્મા પાસે જઈને પોતાના દુઃખો રહે છે અને કૃષ્ણનો જન્મ થશે એવું વચન પામે છે, તેવી રીતે પૃથ્વી ગૌરૂપે અહુરા મજદા પાસે જાય છે, પ્રાર્થના કરે છે, અને જરથુસ્ત્રના જન્મની વધામણી પામે છે. યસન ૨૯ ના પહેલા નવ શ્લોકો મધુરા સંવાદના રૂપમાં રચાયા છે. આ તુલનાત્મક વિવરણથી જરથોશ્તી ધર્મના તત્ત્વજ્ઞાનની સમજૂતી મળે છે. અહુરા-મજદા, છ કિરણાત્મક અમશારપદો, તેમાંથી અહુરા પિતાસ્વરૂપમાંથી પ્રગટેલા અશ, વોહુમનો, અને ક્ષત્ર અને મજદા માતાસ્વરૂપમાંથી પ્રગટેલા આર્મઈલે (શ્રદ્ધા) હઉર્વતાત (ખોરદ્ધ) તથા અમૈરેતાત (અમરદ્ધ), આ સઘના શબ્દોના વિવરણથી આ ધર્મની મહાન્ ક્ષીલસુક્ષ્મ સુંદર રીતે કર્તા સમજાવે છે. માનવશાસ્ત્રની દૃષ્ટિએ તેમજ તુલનાત્મક ધર્મશાસ્ત્રની દૃષ્ટિએ ડૉ. તારાપોરવાલાએ ઘણું અગત્યનું કામ કર્યું છે. સંસ્કૃત ઋત અને અવસ્તાનો અશ, રાજ અને ઋષિના અર્થમાં વપરાતા અહુ અને રતુ, અશનો રાહનો અને જ્ઞાનમાર્ગનો, તેમજ ધર્મશાસ્ત્રના પ્રેમસ્વરૂપમાં વોહુમનોના પંથનો અને ભક્તિમાર્ગનો, અને અહુરાની ક્રિયાશક્તિ દર્શાવનાર ક્ષત્રનો માર્ગનો અને ગીતાના કર્મમાર્ગનો સંબંધ, એ સચોટ રીતે સમજાવ્યો છે. આપણે આશા રાખીશું કે ડૉ. તારાપોરવાલા પોતાના દુરસદના વખતમાં હજુ પણ વધારે વિગતથી સંપૂર્ણ સમજૂતી આપનાર એક મોટું પુસ્તક લખીને જરથોશ્તી ધર્મનું રહસ્ય સરળ ગુજરાતી ભાષામાં સમજાવશે.

સાહિત્યની દૃષ્ટિએ કર્તાએ શુદ્ધ ગુજરાતી ભાષા વાપરવાનો, અસલ ગાથાનો આત્મા જાળવવાને માટે દરેક છંદની લીટી વાર જૂદા વાક્યો બનાવવાનો, અને છંદને Rhythmic proseનું રૂપ આપવાનો પ્રયત્ન કર્યો છે તેનો એકજ નમુનો બસ થશે :

હું જે કાર્ય મથું કરવા ખરા ભક્તિ ભાવે,
રાખી દૃષ્ટિમાં હેતુ તેનો તોલ તું કરજે;
મારી એક મુરદ તમો સર્વની સેવા કરે,
ઉભરાતે હૈયે તમો સાતોના ગુણ રતવું;
અપરદ્ધાદની અમર્ગીની બક્ષીસ હોજો મને;
તે ખોરદ્ધાદ મને આપો પૂર્ણતા જીવનની.

પો. ગા. શાહ.

ગુજરાતના પંચમહાલજિલ્લાના ભીલો. પાંદુરગ ગોવિંદ વણીકર, ભીલ સેવામંડળ, દાહોદ. પ્રકાશક ગુજરાત વર્નાક્યુલર સોસાયટી. અમદાવાદ ૧૯૪૪. પૃ. ૨૧૨. રૂ. ૨૧.

બૃહત્ ગુજરાતની વસ્તીમાં રાનીપરજ-આદિવાસી-પ્રજની સંખ્યા લગભગ ૧૩ ટકા જેટલી ૧૯૩૧ના વસતી પત્રક પ્રમાણે હતી. એટલે ગુજરાતની વસ્તીનો લગભગ સાતમો ભાગ એટલે દર સાત ઇસમે એક ઇસમ આદિવાસી પ્રજનો હોય છે. લગભગ સાત લાખની ગુજરાતી આદિવાસીઓમાંથી પાંચ લાખ તો ભીલોજ છે; અને વળી પાંચ લાખ ભીલોમાંથી અડધા ઉપરાંત તો પંચમહાલ જિલ્લામાં રહે છે. આ દૃષ્ટિએ જોતાં આ પુસ્તક ગુજરાતની આદિવાસી પ્રજાઓના એક અગત્યના ભાગની સંસ્કૃતિની ઝાંખી કરાવે છે.

ભાઈ વણીકરની માતૃભાષા મરાઠી હોવા છતાં તેમણે લગભગ પચીસ વર્ષ સુધી ગુજરાતમાં કામ કરેલું હોવાથી તેઓ શુદ્ધ અને સુંદર ગુજરાતી લખી શકે છે. તેમને ભીલોના જીવનનો વીસેક વર્ષ સુધીનો અનુભવ હોવાથી આ પુસ્તક કેવળ વેદીયું કે શુષ્ક માહિતીથીજ ભરેલું નથી. પરંતુ આ પછાત પ્રજાના નિત્યજીવનમાં એતપ્રેત થઈને તેમની સંપૂર્ણ સહાનુભૂતિ પ્રાપ્ત કરીને કર્તાએ તેમના જીવનનું સાચું પ્રતિબિંબ આપ્યું છે. ભીલો માટે તેમનો ખાસ પ્રેમ અને પક્ષપાત હોવા છતાં તેમણે ભીલોના જીવનની બધી બાબતો ઉપર નિષ્પક્ષપાત પ્રમાણે પ્રકાશ નાંખ્યો છે. ભીલોના રૂપગુણ, અને સ્વભાવ વિષે એકજ ટાંચણ કર્તાની આ પદ્ધતિનો સારો ખ્યાલ આપે છે,

“ભીલો રંગે કાળા હોય છે, કવચિત્ ઘઉંવણું કે ગોરા પણ માલૂમ પડે છે. તેઓ શરીરે મજબૂત બાંધાના, ઉચા, સુદૃઢ અને કસાયેલા હોય છે. તેમજ તેઓ બહાદૂર, સાહસી, વિશ્વાસુ, નિમકહલાલ અને સંતોષી; પણ આળસુ, વ્યસની, ઉજળિયાત વર્ગ કે સરકારી નોકરોથી ડરનારા, અને ગુનાઓ કરનારા પણ હોય છે. સ્વભાવે તે જરા તીખા હોઈ વાતવાતમાં તકરાર કરી ગાળાગાળી અને મારામારી પર આવી જનાર હોય છે. તેઓ પ્રમાણમાં ઉદાર, અને પશુઓની આગતા સ્વાગતા યથાશક્તિ કરનારા હોય છે.”

ભાઈ શ્રી વણીકરે પુસ્તકનો મોટો ભાગ ભીલી સંસ્કૃતિનું વર્ણન ભીલ લોકોના શબ્દોમાંજ આપવામાં રોક્યો છે. ભીલ લોકોનાં લગ્ન પ્રસંગનાં ગીતો, સ્ત્રીઓનાં ગીતો, પુરૂષોનાં ગીતો, ગરબા, “મંડોળ” “કાયટાં ગીતો,” “ભિલોડી ગીતો, ભિલોડી રામાયન, ભિલોડી કહેવતો, નવા ભીલી ગરબા, ગીતો,” વગેરે નો એક સારો સંગ્રહ કર્યો છે. પુસ્તકનો મોટો ભાગ આવા સાહિત્યથી ભરેલો છે અને ૨૧૨ પૃષ્ઠમાંથી ફક્ત ૨૭ પૃષ્ઠમાંજ પોતાની સ્વતંત્ર ટીકા કે વ્યક્તવ્ય ટુંકાવી દીધું છે. પરંતુ આ ટુંકા લેખમાં ભીલ લોકોની સંસ્કૃતિનું લગભગ સંપૂર્ણ અને સર્વવ્યાપી વર્ણન મળી આવે છે. ભીલ લોકોનાં રૂપ, ગુણ, સ્વભાવ, રહેવાનાં ઘરો-ખેતરો-નવાણુ-જળાશયો; ભાષા, શિક્ષણ અને ઉદ્યોગ; પહેરવેશ, અને શણગાર (૨૫ પ્રકારના દાગીનાનું વર્ણન); જન્મવિધિ; લગ્નવિધિ-ઉદ્દાળ-ગીહીકે હરણ કરવાની પ્રથા; મરણ અને કાયટાં; ઘરમાંની રહેણી કરણી; ખોરાક કે જમણુવાર; દેવ, દેવસ્થાન, ધર્મ, તથા વહેમો; તહેવારો ત્યાં વિવિધ ઉત્સવો (ગોળ ગધેડો):—આ દરેક વિષય ઉપર કર્તાએ અત્યંત સહાનુભૂતિ તેમજ સત્યપ્રેમથી એકસાઈ ભરેલું વર્ણન આપ્યું છે. તેમણે પોતાનું હાપણ વાપરીને આ રીતરીવાજ ઉપર નથી કરી ટીકા કે નથી બનાવ્યો જરાયે અણગમો. વૈજ્ઞાનિક તટસ્થ દૃષ્ટિએ અને અભ્યાસકર્તાને યોગ્ય સંશોધન વૃત્તિથી તેઓ વધારે માહિતી એકઠી કરતા જશે અને કેવળ નિષ્ઠા અને સત્યપ્રેમથી ખરી હકીકત સાદી અને અલંકાર વિનાની ભાષામાં દર્શાવશે, તો તેઓ માનવવિદ્યાશાસ્ત્રમાં તેમનું નામ અમર મુકતા જશે. ભાઈ શ્રી વણીકર ખાનદેશ, નાશીક, ડાંગ અને ખીજા પ્રદેશના ભીલો માટે એક ખીજી પુસ્તક તૈયાર કરે છે તેની તૈયારીમાં આવુંજ દૃષ્ટિબિંદુ પોતાની સમક્ષ રાખશે એવી આશા રાખીશું.

શ્રીયુત વણીકર જેવા વ્યવહાર કાર્યકરને ભીલી સાહિત્યમાંથી ચમકારીકે દુચકાઓ જૂદા કાઢવાનું જલદીથી સુઝે નહીં : શ્રીયુત મેઘાણી જેવા સિદ્ધહસ્તને હાથે આ સાહિત્યનો પુનરોદ્ધાર અદ્ભુત રૂપમાં થઈ શકે. પરંતુ પુસ્તકનાં હાલના રૂપમાં જ એકઠી કરેલી માહિતી લવિષ્યમાં અભ્યાસકર્તાને ધણી

ઉપયોગી થશે એમાં શંકા નથી. બીલ-રાવળો પાસેથી તેમણે મેળવેલાં મંડોળના અને કાયદાનાં ગીતો યુક્તિ પ્રયુક્તિના મહાપ્રયાસોનું ફળ છે, એટલુંજ નહીં પણ તે પ્રયાસની પાછળ શ્રી વણીકરનું વીસ વર્ષનું બીલ સમાજ સેવાનું તપ છે. આ લેખકે શ્રી વણીકરની સાથે મીરાખડી અને જ સાવડામાં ફરીને જોયું છે કે તેમની ઉપર બીલોનો પ્રેમ અને વિશ્વાસ ઉભરાય છે. આવા વિશ્વાસ સિવાય ખરું સાહિત્ય મળવું મુશ્કેલ છે.

તેમણે એકઠાં કરેલાં મંડોળ અને કાયદાનાં સાહિત્યનો સ્વતંત્ર અને ઉંડો અભ્યાસ કરવાની જરૂર છે, તેમાંથી બીલોની ઉત્પત્તિ, તેમના ઇતિહાસ, અને તેમની વિકાસ પ્રવૃત્તિની ઘટના વિષે અગત્યની માહિતિ મળી શકે એમ છે.

ગુજરાતની બીજી આદિવાસી પ્રજાઓની સરખામણીમાં બીલોનો આનુવંશિક સંબંધ આર્ય પ્રજાઓ સાથે વધારે પ્રમાણમાં છે તે ગુજરાત સંશોધન મંડળે કરેલા સંશોધનથી ફલિત થાય છે. મસ્તિક, નાસિકા અને શરીરના બીજા અવયવોના માપથી તેમજ તેમનાં લોહીના અમુક ગુણોની તપાસથી નકકી થતું જાય છે કે બીલોનો સંબંધ અનાર્ય કરતાં આર્ય જાતિઓ સાથે વધારે ઘાટો લાગે છે. ગુજરાતમાં બીલો કરતાં વધારે પ્રાચીન જાતિઓ છે કે નહીં અથવા તો શ્રીયુત મુનશીની નવી કદવના પ્રમાણે ગુજરાતના આદિવાસીઓ આર્યોજ હતા અને તે બીલો હતા કે નહીં તે પ્રશ્નોના નિકાલ માટે હજી ઘણા વધારે સંશોધનની જરૂર છે.

શ્રીયુત વણીકરના પુસ્તકની એકજ વિલક્ષણતા નોંધવા જેવી છે. પુસ્તક પ્રથમતો ૧૭-૧૮ વર્ષ પહેલાં લખાયેલું અને ત્યાર પછી તેજ નિરીક્ષકના હાથે આ વર્ષોમાં થયેલાં ફેરફારો નોંધવાનું અને તેને ટુંકાણમાં સ્વતંત્ર વિવેચક દૃષ્ટિથી તપાસવાનું સદ્ભાગ્ય એકજ લેખકને મળે તેનો લાલ વાંચક વર્ગને મળે છે. દાખલા તરીકે નહાવા ધોવામાં અને જાજર પછીની શુદ્ધિમાં, લગ્નમાં દાપા આપવાનાં ખર્ચમાં, ગુનાવૃત્તિમાં, “ગોહરી” પડવા જેવા ઉત્સવોમાં દારૂ છોડવાની શક્તિમાં, લગત બીલોની પ્રવૃત્તિમાં વગેરે ઘણી જાતના રીતરીવાજોમાં છેલ્લાં ૧૯-૨૦ વર્ષમાં ઘણા ફેરફાર થઈ ગયો છે. એકંદરે આવી પ્રગતિ બીલ સમાજના ભવિષ્યની ખાત્રી પૂરે છે. પંચમહાલના એક બીલ ભાઈ બી. એ. એલ. એલ. બી. અને એક બાઈ બી. એ. સુધી અભ્યાસ કરીને પોતાની માનસિક શક્તિ ખીલવી શકે એજ ખતાવે છે કે આ બીલો પછત કામ ગણીને જરાયે પાછળ રાખવાની જરૂર નથી. તેમનો વિકાસ અવિરત આગળ કરવાનો અને જીવન સંગ્રામમાં દરેક પ્રકારની કાર્યદક્ષતા પ્રાપ્ત કરવાનો એક પણ પ્રસંગ તેમની બીનલાયકાત સમજીને જવા દેવો ન જોઈએ.

ગુજરાતની બીજી આદિવાસી પ્રજાઓનો અભ્યાસ આના કરતાં વધારે સંપૂર્ણ અને રસમય રીતે થાય એવું ઇચ્છીએ તો વધારે પડતું ન ગણાય. ગુજરાત સંશોધન મંડળ યથા શક્તિ આ વિષયમાં કામ કરતું જાય છે. પરંતુ તેનાથી વધારે ત્વરિત અને વેગવાન રીતે આદિવાસી પ્રજાઓનું સાહિત્ય ભેગું કરવાનું કામ આપણા કોલેજના અધ્યાપકો અને તેમના વિદ્યાર્થીઓ દરેક વેકેશનમાં કરી શકે. પરંતુ દેશનું દુર્ભાગ્ય છે કે થોડા એક અપવાદ બાદ કરતાં આપણા અધ્યાપકો અને તેમના વિદ્યાર્થીઓએ આવી રીતે ક્ષેત્ર સંશોધનનો લાભ ગુજરાતને આપ્યો નથી. વિવેચકો અને ભાષાશાસ્ત્રીઓ પુસ્તકો વાંચીને શહેરીજનમાં આતપ્રેરણા રહીને સાહિત્યની દૃષ્ટિએ ગમે તે લખે તે શુષ્ક રહેવાનું. હવે ગુજરાતી અધ્યાપકો અને ગુજરાતી ભાષાના અભ્યાસીઓની સંખ્યા વધતી જાય છે તો આપણે આશા રાખીશું કે તેઓ આ દિશામાં આગ્ય જીવન અને ક્ષેત્ર સંશોધનની દૃષ્ટિએ વધારે મહેનત લઈને સતત રીતે કામ કરતા થશે.

પ્રો. ગા. શાહ

ACKNOWLEDGMENTS

The Journal of the Ganganath Jha Research Institute, Allahabad, Vol. II, Parts 2-3, February-May 1945 contains two readable contributions on *Panini* : his life and works by Dr. Vasudeva S. Agarwala, and the *Crescent as an Emblem of Islam* by Naimur Rehman. A description of the foundation stone laying ceremony of the Ganganath Jha Research Institute is also noteworthy for the public response which the institute has commanded within the short period of its life.

The Aryan Path, October 1945. On page 399 in 'Ends and Sayings', the learned editor comments on the high infant mortality and the article of research contributed by Dr. Chamanlal Mehta and Dr. D. D. Vora in the April and July number of the Journal of the Gujarat Research Society.

The Indian Journal of Economics for July 1945 contains an article on *War and Rural Indebtedness in Gujarat* by Mr. M. B. Desai, based on the study of indebtedness of 217 farmers, artisans and field labourers all over Gujarat conducted during February-April 1944. Only farmers employed in cultivation of garden crops and tobacco and those with holding of more than 38 acres or more and raising dry crops have prospered during the war ; the indebtedness of others has increased during the war.

Report of the Scientific Advisory Board for the year 1944 ; Indian Research Fund Association, New Delhi.

Bharatiya Vidya, Vol. VI, No. 9, Bharatiya Vidya Bhavan, Bombay.

Science and Culture, Vol. XI, Nos. 1 & 2.

The Indian Journal of Social Work, September, 1945.

Gandhism Reconsidered by M. L. Dantwala, 2nd Edition.

અક્ષર અને શબ્દ, લેખક કેશવરામ કા. શાસ્ત્રી, ગુજરાત સાહિત્ય સભા, અમદાવાદ.

ગુજરાત સાહિત્ય સભાની કાર્યવહી સને ૧૯૪૩-૪૪, અમદાવાદ.

શ્રી. ફાર્બસ ગુજરાતી સભા ત્રૈમાસિક, પુસ્તક-૯, અંક ૩-૪. ૧૯૪૪-૪૫.

પ્રકૃતિ; સપ્ટેમ્બર ૧૯૪૫. નુતન શિક્ષણ-નિયમિત. પુસ્તકાલય-નિયમિત.

કુમાર નિયમિત. ઊર્મિ અને નવરચના-નિયમિત. ઘરશાળા નિયમિત.

પ્રજ્ઞાંબુ નિયમિત. સયાજી વિજય નિયમિત.

REPORT OF THE GUJARAT RESEARCH SOCIETY FOR THE YEAR 1944

During the ninth year ending 31st December, 1944, the Society maintained its steady progress in various directions. The membership now stands at 180 as against 175 in the previous year. We have now 1 Patron, 1 Honorary Member, 9 Donors, 69 Life-Members, 93 Ordinary Members and 7 Associate Members. A new acquisition during the year is the veteran scholar and social worker, Diwan Bahadur K. M. Jhaveri whose election as Honorary Member was announced at an extra ordinary meeting held on 11th January, 1914 on the occasion of his 75th birthday.

In view of the interest recently created in the problems of a separate University for Gujarat, the Society published a special number of the Journal containing contributions by some fourteen eminent persons including Sir Chimanlal Setalvad.

Various research schemes of the Society involving field work on (1) Anthropological study of the Bhils, (2) Linguistic Survey of the Borderlands of Gujarat and (3) Standardisation of Intelligence Tests for Gujarati Children are in progress and will, we hope, be completed in due course. The results of the research work on the Bhils of Panchmahals and Rajpipla were published in the October 1944 issue of the Journal.

During December, 1944, it was found possible to organise a party of research workers to visit the Bhils in Tapti Valley (Nandurbar, Jaloda etc.) where in addition to Dr. D. N. Majumdar of the Lucknow University, Dr. T. N. Dave, Professor of Sanskrit, Gujarat College and Mr. T. B. Naik were present. The work is to be continued among the Bhils of the Dangs of Surat as well as Nasik Districts during the next year.

The Intelligence Test work is proceeding under the guidance of Mr. J. H. Trivedi. In addition to the 300 children examined last year, 200 more have been examined this year and a preliminary report is soon expected. The plan is to test 500 more children before issuing the final report. It is proposed to test these children according to the Binet-Simon tests as modified by Dr. V. V. Kamat for Marathi and Canarese children. Further, for the purpose of a comparative check on this work, these children are being tested also by performance tests devised by Drever and Collins.

The work in connection with the first volume of the History of Gujarat is in progress. However, some delay seems inevitable in view of other preoccupations of the scholars entrusted with the work.

In the absence of trained workers, the Nutritional Survey work planned by the Medical and Economic Sub-Committees had to be suspended for the time being, but a Survey has been carried out from the records of the lying-in hospitals as to the condition of Gujarati children and of mothers in middle class families in the City of Bombay.

The Journal of the Society has continued its existence in spite of numerous difficulties connected with Paper Control.

The Society continued to get the usual help from the Trustees of Seth Lalji Dayal Trust, Seth Tulsidas Gopalji Charitable and Dhakleshwar Temple Trust, Seth Harjivandas Purshottamdas Trust and also from the Mahalaxmi Temple Charities. The Society is grateful to the Trustees of all these Trusts for their ready co-operation in extending their help year after year. We are also thankful to the Government of Bombay for the grant of Rs. 500 for the year 1944-45, which it is hoped will be increased in future.

Bombay
3-3-1945.

J. J. ANJARIA,
Hon. General Secretary.

THE GUJARAT RESEARCH SOCIETY, BOMBAY.

Balance Sheet as at 31st December, 1944.

FUNDS & LIABILITIES:	Rs. as. p.	Rs. as. p.	PROPERTY & ASSETS:	Rs. as. p.	Rs. as. p.
FUNDS:			FURNITURE: (at cost)		
Permanent Fund:			Balance as per last Balance Sheet	...	295 0 0
Balance as per last Balance Sheet	22,651 0 0		Less: Depreciation written off to date	..	68 0 0
Add: Subscriptions from Patron, Donors and Life Members received during the year	1,900 0 0	24,551 0 0	INVESTMENTS: (at cost)		
Research & Exploration Fund:			3½% Govt. Pro. Notes	34,700/-	
Balance as per last Balance Sheet	...		3 % Govt. Pro. Notes	300/-	
Add: Interest received during the year	Rs. 70 0 0			Rs. 35,000/-	33,864 4 2
Interest of the previous year transferred from General Fund	70 0 0				
History of Gujarat Scheme Account:			History of Gujarat Scheme Investments: (at cost)		
Balance as per last Balance Sheet	...		3½% Govt. Pro. Notes of the Face Value of Rs. 1,000/-	...	948 12 8
Add: Interest received during the year	Rs. 35 0 0	1,800 0 0	Research & Exploration Fund Investments: (at Face Value)		
Interest of previous two years transferred from General Fund	70 0 0	105 0 0	3½% Govt. Pro. Notes of the Face Value of Rs. 2,000/-	...	2,000 0 0
H. P. Trust Scholarship Fund			(The Market Value of the above Securities as on 31st December, 1944, was Rs. 37,976 1 0)		36,813 0 10
Balance as per last Balance Sheet	...	10,517 6 2	STOCK OF JOURNAL PRINTING PAPER		
Less: Amount transferred to History of Gujarat Scheme Account	70 0 0		ON HAND CASH & OTHER BALANCES:		
Amount transferred to H. P. Trust Scholarship Fund	150 0 0	150 0 0	In Current Account with the Imperial Bank of India	2,554 13 2	
Amount transferred to Research and Exploration Fund	70 0 0	290 0 0	Cash on hand	8 1 0	2,562 14 2
Add: Excess of Income over Expenditure for the year	...	10,227 6 2			
		982 0 10			
		11,209 7 0			
		Total Rs.		Total Rs.	39,955 7 0

We have examined the Balance Sheet of the Gujarat Research Society, Bombay, as at 31st December, 1944, above set forth, with the Books and Vouchers of the Society and find the same to be correct.

DALAL & SHAH,
Incorporated Accountants,
Registered Accountants,
AUDITORS.

Bombay 30th January 1945

Dr. A. S. KALAPESI
Hon. Treasurer

J. J. ANJARIA
Hon. General Secretary

THE GUJARAT RESEARCH SOCIETY, BOMBAY.

Income & Expenditure Account for the year ended 31st December, 1944.

EXPENDITURE :	Rs. as. p.	Rs. as. p.	INCOME :	Rs. as. p.	Rs. as. p.
To Printing Expenses of the Journal ...	1,600 4 6		By Subscriptions :		
Linguistic Survey Expenses ...	158 6 0		From Ordinary Members ...	960 0 0	
Mental Intelligence Test Scheme Expenses	100 0 0		From Associate Members ...	12 0 0	
H. P. Trust Scholarship ...	450 0 0		Subscriptions, Advertisement Charges and Sale of Journal ...		972 0 0
Survey of the Health of Gujarati Children Expenses ...	69 0 0		Interest on Securities ...		403 8 0
Anthropological Research Expenses ...	213 15 0		Donations :		1,092 4 4
Salaries ...	840 0 0		From Tulsidas Gopalji Charitable & Dhakleshwar Temple Trust ...	1,200 0 0	
Printing & Stationery ...	56 4 0		From Mahalaxmi Temple Charities ...	300 0 0	
Postage ...	221 14 0		Sundry Donations ...	400 0 0	
Conveyance & Miscellaneous Expenses ...	159 0 0		Government Grant ...		1,900 0 0
Depreciation on Furniture ...					500 0 0
Balance, being Excess of Income over Expenditure ...		3,868 11 6 17 0 0			
		982 0 10			
Total Rs. ...		4,867 12 4	Total Rs. ...		4,867 12 4

Examined and found correct

DALAL & SHAH,

Incorporated Accountants,

Registered Accountants,

Hon. Auditors.

Bombay, 30th January, 1945.

Dr. A. S. KALAPESI

Hon. Treasurer

J. J. ANJARIA

Hon. General Secretary

GUJARAT RESEARCH SOCIETY

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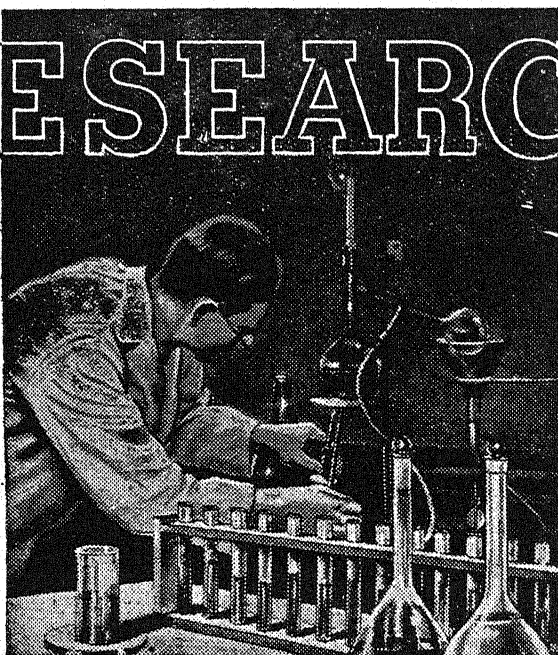
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